



**REPORT
OF
THE NATIONAL COMMISSION
ON
URBANISATION**



VOLUME III

(MEMORANDA)

Contents

PAGE

VOLUME—III

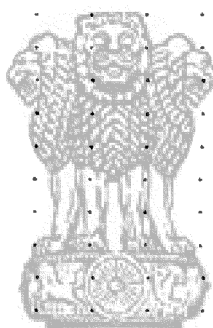
PART I—Memoranda/views received from Union Ministries/Departments of:—

1. Ministry of Agriculture and Rural Development	1
1.1. Department of Rural Development	1
1.2. Department of Agriculture & Cooperation	1
2. Ministry of Transport	2
2.1. Department of Civil Aviation	2
2.2. International Airport Authority of India	2
2.3. Air India	2
2.4. Vayudoot	2
2.5. Helicopter Corporation of India	3
3. Ministry of Commerce	4
4. Ministry of Communication	5
5. Ministry of Defence	9
6. Ministry of Energy	12
6.1. Department of Non-Conventional Energy Sources	12
6.2. Department of Coal	12
7. Ministry of Finance	14
8. Ministry of Food & Civil Supplies	15
8.1. Department of Civil Supplies	15
9. Ministry of Health & Family Welfare	16
10. Ministry of Home Affairs	22
11. Ministry of Human Resource Development	23
11.1. Department of Culture	23
11.2. Department of Youth Affairs & Sports	23
12. Ministry of Industry	24
13. Ministry of Information and Broadcasting	26
14. Ministry of Labour	27
15. Ministry of Petroleum & Natural Gas	38
16. Ministry of Steel & Mines	39
17. Ministry of Science & Technology	41
18. Ministry of Surface Transport	43
19. Ministry of Urban Development	44

20. The New Exploration Strategy	48
21. Ministry of Water Resources	50
22. Deptt. of Electronics	51
23. Ministry of Welfare	53

PART II—Memoranda received from the State Governments.

1 Andhra Pradesh	57—127
2 Arunachal Pradesh	128
3 Assam	129—32
4 Bihar	133—42
5 Goa	143—151
6 Gujarat	152—160
7 Haryana	161—165
8 Himachal Pradesh	166—169
9 Jammu & Kashmir	171—186
10 Karnataka	186—209
11 Kerala	210—226
12 Madhya Pradesh	227—264
13 Maharashtra	265—281
14 Manipur	282—286
15 Meghalaya	287—289
16 Mizoram	290—296
17 Nagaland	297—300
18 Orissa	301—318
19 Punjab	319—332
20 Rajasthan	333—344
21 Sikkim	345—350
22 Tamil Nadu	351—359
23 Tripura	360—368
24 Uttar Pradesh	369—396
25 West Bengal	397—405

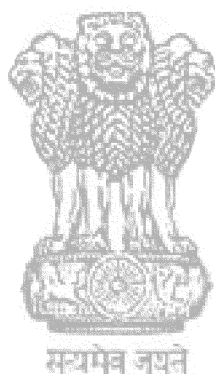


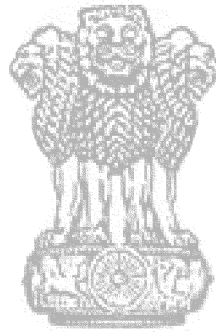
PART III—Memoranda received from Union Territory Administrations.

1 Andaman and Nicobar Islands	409—16
2 Chandigarh	417—427
3 Dadra and Nagar Haveli	428—429
4 Pondicherry	430

Contents of the other volumes of the N. C. U. Report

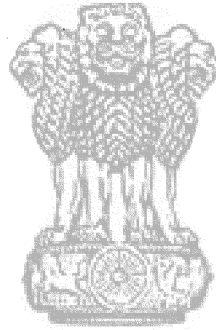
Vol. I		Preface
		Acknowledgements
	1.	Issues & Strategies
	2.	Recommendations
Vol. II	Part I	
	1.	Dimensions of Urbanisation
	2.	Urban Future
	Part II	
	3.	Urban Pattern
	4.	Spatial Planning
	Part III	
	5.	Urban Poverty
	6.	Land as a Resource
	7.	Finance
	8.	Urban Management
	Part IV	
	9.	Planning the City
	10.	Urban Form
	11.	Housing
	12.	Conservation
	Part V	
	13.	Transport
	14.	Water and Sanitation
	15.	Energy
	Part VI	
	16.	People's Participation
	17.	Information System
	18.	Legal Framework
Vol. III		Memoranda
Vol. IV		Working group Reports
Vol. V		Research Studies Reports
Vol. VI		Bibliography
Vol. VII		Annexures





सत्यमेव जयते

Part I



सत्यमेव जयते

Ministry of Agriculture and Rural Development

1.1.0 DEPARTMENT OF RURAL DEVELOPMENT

(Ref.) From communication D.O. No. P. 11012/7/86-Policy of 15 April 1986 from Shri Shivraj Singh, Joint Secretary (M).

1.1.1 The process of economic growth creates focal points of urban growth. These growth centres thereafter start developing in an unsystematic manner responding to growth impulses. After sometime, these points become ugly habitats with urban characteristics in a dominantly rural setting. In a country like ours, we should have a policy regarding such embryonic urban centres. The Commission may like to go into this aspect of the matter and come up with suitable recommendations.

1.2.0 DEPARTMENT OF AGRICULTURE & COOPERATION

(Ref.) Data supplied by D. G. R. Saini, Economic & Statistical Adviser, Directorate of Economics & Statistics, Department of Agriculture & Cooperation, Ministry of Agriculture & Rural Development, Government of India under his letter D.O. No. F. 7-2/86-AS Comp.-ES of 10 April 1986.

1.2.1 Area put to non-agricultural uses for the year 1982-83 (Provisional) (Statewise)

State/Union Territory	Area put to non-agricultural uses
(1)	(2)
Andhra Pradesh	2216
Assam	912
Bihar	1659
Gujarat	1078
Haryana	328

(1)	(2)
Himachal Pradesh	163
Jammu & Kashmir	304
Karnataka	1131
Kerala	276
Madhya Pradesh	2205
Maharashtra	998
Manipur (b)	26
Meghalaya	85
Nagaland	28
Orissa	632
Punjab	440
Rajasthan	1510
Sikkim	70
Tamil Nadu	1781
Tripura	—
Uttar Pradesh	2336
West Bengal	1293
Andaman & Nicobar Islands	14
Arunachal Pradesh	—
Chandigarh	7
Dadra & Nagar Haveli	3
Delhi	45
Goa, Daman & Diu	21
Lakshadweep	(a)
Mizoram	10
Pondicherry	11

19582

Below 500 hectares
Ad-hoc estimates.

In the absence of data for the year 1982-83 latest available information has been utilised.

Ministry of Transport

2.1.0 DEPARTMENT OF CIVIL AVIATION

(Ref.) The presence and location of new airports depend on the master plans of the cities where the airport is to be established. The airports are normally located a minimum of 8 Kms away from the cities and they do not have any positive impact on the urbanisation problems. Normally we develop already existing airports which are existing from the World War II-time.

2.1.1 INTERNATIONAL AIRPORTS AUTHORITY OF INDIA

View on the problems of Urbanisation

2.1.2 The IAAI is not directly concerned with the problems of urbanisation in the States. In fact, the areas near or around the International Airports at Delhi, Bombay, Calcutta and Madras vest with the States.

2.1.3 It is, however, felt that the development and/or urbanisation of these areas should not pose a hazard to flying or constitute an environmental problem to facilities provided at the international airports. It may, therefore, in the circumstances, be expedient that urbanisation plans of these areas are drawn and implemented in consultation with the Director General, Civil Aviation, and the IAAI in which the control and management of international airports vests.

2.2.0 AIR INDIA

(Ref.) From communication No. HQ/90-15/1507 of 14 May 1986 from Shri S. Narayanswamy, Secretary & Dy. Director, Air-India.

2.2.1 Urbanisation follows industrialisation. Equal opportunities for employment, whether self or otherwise at district level, if not at taluq levels, is the only answer. Even if infrastructure or resources are not available in district places and therefore setting up of an industry proves to be apparently costly of the first evaluation, considering the social costs that have

to be ultimately paid, towards the law and order situation, unhygienic conditions, inevitability of generating totally indifferent attitudes among citizens to the law or the moral codes, would prove far too heavy. Infact, granting subsidies at the cost of the exchequer for setting up of different industries in all the districts of the country, may prove for from economical, because, due to urbanisation people flock to the urban sectors to earn their livelihood. The authorities will be unable to check lawlessness, which in itself will generate indifference and contempt for the laws and moral codes, thereby. The entire edifice will collapse, once there is neither fear for the law nor respect for self-observing the moral codes. Airports as means of communication or gateways to the cities of various states would generate little centres for employment and that too for uneven hours. As far as organisation concerned with aviation are concerned, they have no option but to be in urban centres and continue to face the problems of urbanisation. Practically no remedies can be offered from the aviation sector, for problems of urbanisation. Remedies will be basically coming forth from other sectors like transport, more so from Roads and Railways and Waterways. If charter flight could be arranged from source of generation of export cargo and prove economical, few of the cities could be considered for extending aviation economically.

2.3.0 VAYUDOOT

(Ref.) Communication No. PF/HQ/SEC-1/1058 of 5 June 1986.

2.3.1 It is a fact that urbanisation is leading to various problems such as poverty, unemployment, inadequate housing and the decay of infrastructure. All the individuals are running towards towns and metropolises either to get employment or to set up their business. The flow from villages and towns to urban areas is causing very haphazard growth due to lack of housing facilities, unemployment etc. The cities and towns are becoming crowded and causing polluted environment.

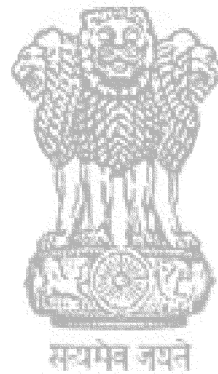
2.3.2 It is desired that the growth of a nation should be uniform. Instead of creating all facilities and enjoyment facilities in few cities, the development should be all-round and balanced. This would give natural growth to the nation. Vayudoot is playing a very important role by airlinking remote and inaccessible areas and by linking those areas with the nation's mainstream. The air services of Vayudoot are heading towards national integration. Vayudoot's air services are playing a great role in developing the backward industrial areas. The remote areas shall come closer and become accessible. Initially, Vayudoot may have to suffer monetary loss due to inadequate load and lack of awareness among the public. In the long run, it would be in the interest of the nation to knit the various parts of the country into one. Vayudoot expects some help from State and Central Government in respect of grant of various

concessions and fuel subsidies to make its slights economically viable. The development of new sectors could be easy if various concessions are given to Vayudoot and the problem of urbanisation can be ended if the Indian Citizens are happy in their villages and towns by creating facilities there itself.

2.4.0 HELICOPTER CORPORATION OF INDIA

(Ref.) From communication No. HCP/D/3/85 of 15 April 1986.

2.4.1 Generally large tracts of land are available in the vicinity of Airfields/Helipads which may present a suitable area for urbanisation. However, this Corporation recommends that the Urbanisation Plan in such places should be implemented in a manner where it will not encourage the ingress of birds or be detrimental to flying visibility.





Ministry of Commerce

3.1.0 DEPARTMENT OF COMMERCE

(Ref) From communication D.D. No. 19/3/87/Mis-(T) of 8 October 1987 from Shri T. S. Vijayaraghavan, Joint Secretary.

3.1.1 Urbanisation is directly related in industry and trade; substantial exports accrue from urbanised settlements. Over the years exports from these regions are expected to increase substantially. Therefore, the export sector should not in any way be hindered in the course of regulating the urbanisation process.

3.1.2 The existing spatial spectrum of exports indicates that owing to better resource endowment, infrastructure, relatively easy and timely access to market information, export/trading centres are largely concentrated in bigger cities and metropolises though export-production originates from a large number of centres, including smaller urban settlements. It is difficult to dislodge this pattern save at the expense of exports. Therefore, in the urban planning processes, necessary provision should be made for tapping export potential of a region through this pattern of commercial linkage between and production centre and a trading/clearing centre.

3.1.3 It is our view that extent of urbanisation arising out of international trade and commerce can be dispersed by development of satellite settlements, including ports designed and supported with adequate infrastructural environment conducive to their growth. This would relieve the pressure on existing centres.

3.1.4 This Ministry has established six Export Processing Zones in the country which are located at Kandla (Gujarat), Santa Cruz (Bombay), Cochin (Kerala), Madras (Tamil Nadu), Falta (West Bengal) and Noida (Uttar Pradesh). The last four are new ones which are being developed in consultation with the State Governments with institutional and infrastructural back-ups. These Zones have been located outside the principal industrial centres in most cases and export production in these zones is directly conveyed to the nearest international gateway (sea/airports). These zones have by and large not added to the pressures of urbanisation in principal cities.

3.1.5 It is felt that, within the long-term urban planning processes, about 30 of the "fast-growing-urban-settlements" should be identified and earmarked as export growth centres for specific products keeping in view resource endowment of each particular settlement; e.g. urban planning for Jaipur City (Rajasthan) should nurture export potential of the area with specific emphasis on products like carpets, gems, diamonds and artificial jewellery. Similarly, Bhadohi (UP) may be spatially developed with its strong expertise of woollen carpets, durries and other related products. Panipat (Haryana) is another centre which could be planned with its strong base for handloom products. It is necessary that development of such urban centres should take place accompanied by the requisite degree of infrastructural support including reliable communication network against a reasonable perspective, power and transport facilities. In this connection, a re-examination of the current locational policy may also be necessary, along with the associated factors so that units are permitted to be located in places where costs of production are internationally competitive.

3.1.6 As regards the short-term policy measures, it would be necessary to encourage induction of non-pollutant high tech value added export-oriented activity by utilising vacant areas and other land under occupation of outdated industries that have outlived their utility in the metropolis of bigger cities. Inherent advantages of such a decision would be that the infrastructural and other institutional support already available can be more gainfully employed for revitalising large urban settlements which are now on the verge of urban chaos and collapse. Large tracts of unutilised lands under control of Port Trusts especially of Bombay and Calcutta could be recycled for high tech export-oriented activity without adding to population or congestion pressures.

In order to oversee long-term and short-term planning and implementation of Export Area Development Programmes, an apex level body may be necessary to set out policy guidelines as well as to monitor growth in desired directions.



Ministry of Communication

4.1 DEPARTMENT OF POSTS

URBANISATION AND POSTAL SERVICES

Main content of D.O. letter No. 1-2/86-PRP of 4 August 1986 from Shri Kailash Prakash, Member Development, Department of Posts, Government of India. The departmental note entitled Futurestic Requirements of the Postal Services, reproduced immediately after the extracts from Shri Kailash Prakash's letter.

Extracts from the above letter

The country is provided with a comprehensive postal network which caters to the needs of urban and rural population alike. However, there are important structural differences between urban and rural postal systems and the requirements in terms of manpower and physical assets also widely differ. In rural areas, postal services are mainly provided through an extra-departmental system under which suitable local inhabitants are appointed on a part-time basis as postal employees and the requirements of accommodation for the post office are also met by the extra-departmental postmasters themselves. Further, by and large, mail transportation between the rural post office and the urban post office is done through mail carriers who walk the distance, though wherever faster modes of transport are available, such as buses and trains, those means are also utilised.

In urban areas on the other hand postal facilities are provided through regular departmental units which are manned by full-time officials from the appropriate postal cadres. Usually, accommodation is rented by the Department but as traffic increases and more men are added, it generally becomes necessary to go in for departmental buildings provided land is available at a reasonable cost.

It will, therefore, be seen that, while urbanisation does not necessarily involve introduction of new facilities, it does become necessary for the Department to upgrade the units and also provide facilities/amenities commensurate with an urban environment. Our experience in this regard in the last two or three decades has been that the postal authorities have not been sufficiently involved in the process of urban planning with the result serious problems have cropped up at

later stages, mainly in terms of requirements of space in providing postal facilities to an adequate extent. The basic requirement, therefore, is that postal authorities (Postmasters General, Directors Postal Services and Divisional Superintendents) must be closely associated with urban development agencies and that the master plans must, in all cases, adequately provide for land and other utilities required for the increased demand on postal services that urbanisation would necessarily make.

Yet another problem that we have encountered in certain areas is that even where lands have been earmarked in the master plans for postal buildings, these have been changed unilaterally to accommodate other requirements, mostly those of the local governments even though, socially, the alternative utilisation is of a lower priority as compared to a post office. It is, therefore, also necessary to ensure that plots assigned for postal purposes in urban development plans are not assigned for other purposes without the express consent of the concerned postal authorities.

Yet another aspect of postal services in the urban context is the design of postal buildings. In the past, due to inadequate availability of funds building projects were taken up on a limited scale and it has been possible to develop specific designs in each case to ensure architectural compatibility with the surroundings. From the Sixth Five Year Plan onwards, investments in postal building projects have substantially increased and more and more projects are being taken up. In order to keep down the expenditure and also to reduce the delays in preparation of drawings the Department is now going in for standard designs for postal buildings. While these standards broadly conform to topographical requirements they are not tailored to specific locations. In all cases, the drawings are cleared with Municipal authorities to ensure compliance with Municipal byelaws, but there are occasions when clearances from special urban agencies, such as Urban Arts Commission may have to be obtained. There may be occasions when the drawings may not be approved by the special agencies and modifications which would increase the cost of projects may be suggested. It may be worthwhile for the Commission to consider to what extent subsidies from urban development funds available to the Department of Posts to meet special architectural requirements.

I would suggest that the Commission may give an opportunity to Postmasters General to appear before them for tendering evidence. Also a sufficient number of copies of the questionnaire framed by the Commission may be sent to us so that they may be circulated to Heads of Postal Circles for their response.

A NOTE ON FUTURISTIC REQUIREMENTS OF THE POSTAL SERVICES

1. Postal Network in Urban Areas :

The country is provided with a comprehensive postal network which caters to the needs of urban and rural populations alike. However, there are important structural differences between urban and rural postal systems and requirements in terms of manpower and physical assets also widely differ. In urban areas postal facilities are provided through regular departmental units which are manned by full-time officials from the appropriate postal cadres. Usually, accommodation is rented by the Department but, as traffic increased and more men are added, it generally becomes necessary to go in for departmental buildings provided land is available at a reasonable cost.

A post office is opened in an urban area if it is self-supporting and also generates income to the prescribed extent and the distance between post offices is not less than 1.5 km or 2 km according as the population of the cities is 20 lakhs and above or less than 20 lakhs. No two delivery posts offices, however, should be closer than 5 km.

With the turn of this century, because of the upward growth of population and other development activities, more and more postal facilities have to be provided. At present we have 15,586 urban post offices serving on an average 10,248 population and 3.4 sq. km. area. This number is expected to rise by about 30% up to the end of this century and then is expected to come down by about 50% or so. Thus, by the end of this century, 4675 post offices are expected to be added to the present list of urban post offices and thereafter, till the end of 2025, the further additional requirements may be about 2500.

II. Mechanization :

In the Postal Mechanization, Research and Development Wing of the Department of Posts, we are concerned with installation of machines to improve productivity and also reduce cost of operations. The machines which are procured by this wing are broadly classified into the following :

- (i) High Speed Cancelling Machines.
- (ii) High Speed Franking Machines.
- (iii) Cash Registers (Multi-purpose counter machines).
- (iv) Digital Weighing scales.

2. The requirements of these machines have been identified after an assessment based on work study establishing their relationship between the volume of traffic and the amount of mechanical inputs. Approximately, for counter transactions like Money Orders

and Registered articles and parcels a norm of 200 articles (Registered and Money Order) and 100 articles (Parcels) transactions per day are taken as norms for justifying supply of machines. Based on the above assessment for the period 1985—90, it is proposed to supply the following numbers of machines of different categories during the 7th Five Year Plan.

1. High Speed Stamp Cancelling Machines	— 75
2. High Speed Franking Machines	— 25
3. Digital Weighing Scales	— 100
4. Cash Registers	— 50

3. In fact, our actual demand for machines, based on the norms adopted, work out to 388 machines for cash registers alone. Because of resource constraints the actual programme of equipping with counter machines during the 7th Plan period has been limited to 50 cash register machines. In respect of stamp cancelling machines, not only high-speed variety, but even of the ordinary speed of 2000—3000 articles per hour, the number of machines that will be required during the 1985—90 will be around 500. Similarly, in respect of franking machines, the requirement of these machines will be of the order of 150 machines during the 1985—90 as against the target of 25 high-speed machines only. Here again, the actual requirement has been pruned keeping in view the financial considerations in view of the plan allocation. The requirements of these machines therefore, during the following 3 type-stages will be as follows :

	1985-90	2001	2025
Cash Registers	388	430	450
Stamp Cancelling machines	500	550	680
Franking machines	150	165	205

4. Since the problem of urbanization has been visualized in terms of space requirements for the post offices in the future and the installation of the above equipments is purely in the nature of counter aids, it is considered that these proposed facilities will not cause any appreciable impact on space requirements. However, the need for accommodating these machines at the respective counters will be felt as and when the various counters are equipped with these machines. The design of the counters may have to keep this in view to provide for the lodging of these machines in front of the postal operatives.

5. Computerization

One of the compelling needs of the future in the context of modernizing the post office is the increase in use of computers in selective areas of operation. Unlike counter machines, these installations involve proper site development, such as special accommodation with Airconditioners and other electrical installations. Keeping in view the need for installing mini computers for processing of Money Orders, Postal Life Insurance, Savings Bank, etc., and also personal computers for a Management Information System, it is considered that the different offices

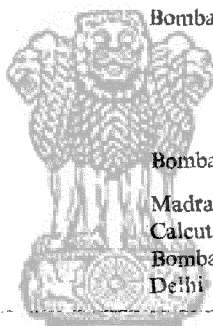
of the Postmaster General and Director of Accounts (Postal) should provide for additional accommodation in each case as follows :

The space requirement for a computer project will be approximately 250 sq. m., including 25 sq. m. for the computer room and 20sq. m. for power supply installations. The rest of the space will be for off-data entry machines and records and circulation space.

6. In addition to the above needs of space, plans for computerization would also necessitate additional requirements of power supply. Based on the experience of one circle, we may say that a requirement of about 500 KWH of energy in places covered by the computerization will be required per day.

7. The following is the programme of computerization in the Department of Posts for the area identified as above during the years 1985-90 :

	1986-87	1987-88	1988-89	1989-90
P.L.I. (Circle)	Karnataka O/o Dir (PLI) Calcutta	Gujarat Kerala N.E. N.W. W.B. M.P.	Bihar Delhi Maharashtra Orissa Rajasthan Tamil Nadu U.P.	A.P. J & K.
Money Order	Madras Delhi	Hyderabad Nagpur Jaipur Lucknow	Patna Bangalore Cuttack Kapurthala Calcutta	Trivandrum Bhopal
Savings Bank	Delhi	Bombay	Calcutta Madras	
GIRO			Bombay Calcutta Madras	
Foreign Post		Bombay		
Computer Linkage		Madras Calcutta Bombay Delhi	Patna Lucknow Orissa	



III. Mechanized Mail Handling System

8. A major location of the allocation for the 7th Five Year Plan for modernization is towards the mail sorting scheme for metropolitan cities. An amount of Rs. 2375 lakhs has been allotted for this

purpose. Some work has been done in the case of Bombay where Messrs T.C.I.L., in consultation with BPCS, carried out a study of prospects of mechanization of mail handling. A projection of mail traffic for the years 1985-2008 has been made in that study as follows :

	1985	Growth Rate (in lakhs)	1988	2008
South Bombay Office				
1. Bombay RMS	4.07	8200	4.32	5.71
2. Bombay TD	3.06	20000	3.66	7.06
North Bombay				
1. Sion Sorting	1.58	9600	1.87	3.50
2. NBSO	1.38	9600	1.67	3.50
Central Bombay				
1. Dadar Sorting	1.99	4000	2.11	2.79
2. Byculla	2.35	4000	2.47	3.15
3. CPSO	4.33	25000	5.03	11.45

9. Keeping in view the above levels of traffic, a proposal is under examination to consider mechanization of the mail handling in these offices in the Bombay City in a phased manner. The machinery comprising bag storage glacies, mail segregation tables, bag and tray conveyers, and coding desk and letter and packet sorting machines and lift systems will occupy considerable space. Based on the application of area multipliers of these equipments, a minimum space of around 1500 sq.m. in South Bombay and around 2000 sq.m. in North Bombay has been felt. Taking into consideration similar expansion of traffic in the lesser extent in Madras, a smaller scale of accommodation will have to be found. While this is the scenario for 1985-90, in respect of the four metro cities, it is expected that, during the 2001, the following additional cities may come up during the 2001, the following additional cities may come up with the requirements of such mechanised mail handling.

Ahmedabad, Bangalore, Kanpur, Hyderabad, Nagpur, Guwahati, Cochin.

10. Around the year, 2025 mail traffic in the following cities will grown to justify installation of mechanized systems at the following cities :—

Bhopal, Trivandrum, Coimbatore, Lucknow, Allahabad, Varanasi, Patna, Siliguri, Dimapur, Jaipur, Cuttack, Bhubneshwar.

IV. Delivery of Mails in Multi-storeyed Buildings

In metro and other bigger towns multi-storeyed buildings are emerging making it extremely difficult for the delivery of staff to deliver mail in every flat in such buildings. Similarly, difficulty is being experienced in respect of addresses living in houses with large compounds entailing travel of long distant from the outer gate to the house in the building to deliver the mail. To overcome this difficulty, the Department has now proposed to bring forth an amendment to the relevant sections of the IPO Act making provision for compulsory installation of letter deposit boxes either at the ground floor or at the main gate of such buildings for the purpose of delivery of mail. The Commission is requested to make provision for earmarking of space in all such buildings for compulsory installation of letter deposit boxes on the ground floor by getting the Municipal by-laws suitably amended.

V. Requirements of Space for Keeping Post Boxes.

The increased volume of mail is posing a problem for the delivery staff in delivering mail at the door-steps of all the addresses. Steps have been taken to popularise the use of post boxes for those addresses who are generally receiving a large volume of mail every day. We have already issued instructions making provision for the delivery of registered articles as well as parcels through the use of post boxes and post bags. The use of post boxes is likely to increase in the years to come with the growth of mail handled by the Department of Posts and post offices

may find themselves handicapped for housing the post boxes cabinet for want of adequate space in the buildings. It is high time that we give a serious thought to this problem at this stage and make sufficient provision for keeping these post boxes cabinets in the post office buildings likely to come up in future. This will in the long run enable us to divert our mail traffic through these post boxes which will certainly result in saving of time and manpower.

VI. Provision of sites for Post Offices and Mail Sorting Offices in Urban Areas

Post Offices, by their very nature, have to be located in specific localities and colonies in order to render the essential postal services to the public. It has become very difficult to secure sites for Post Offices in the already developed and congested urban centres. Out of about 25,000 post offices, almost as many as 21,000 are located in rented premises which are mostly unsuitable for the efficient functioning of the Post Office. Besides owners of many of these buildings are pressing for vacation of the premises and have filed suits against the Postal Deptt. Often, the Postal Deptt. is unable to vacate the premises due to non-availability of suitable sites for essential public offices like the Post Office in the already congested urban localities. This aspect has to be kept in view as part of urban renewal programmes.

Besides the need of sites for public offices like the Post Office and Mail Sorting Office have to be kept in view in any urban development schemes. When new colonies, suburbs and townships are planned, the needs of these offices have to be made an integral part of the Master Plan of such Schemes. Post Offices have to be given prime sites to ensure their easy accessibility to all the potential clientele in the locality or colony. Likewise, in urban growth centres such as industrial estates, project areas, etc. sites for Post Offices have to be earmarked even in the initial stages of developing such areas.

VII. Housing for Employees of Post Offices

Employees in Post Offices are categorised as essential, operative staff. Their timely attendance is vital to the efficient functioning of Post Offices and smooth service to the public. A good number of these staff have to attend the Post Office in the early morning and have to remain in office till late in the evening. Many of them do not have continuous hours of work but split hours of duty, so much so that they should have the convenience to go home during the closed hours of the office and return to work for the second shift in the day.

There is, thus, imperative need to provide housing facilities to Post Office employees close to the work spot. Sites have to be earmarked for housing for essential Post Office staff as close to the office as possible. This aspect is to be kept in view in any future urban development Plans.

Ministry of Defence

PROBLEMS OF URBANISATION IN THE CANTTS./MILITARY STATIONS

There are 62 Cantonments and about 300 Military Stations in the country. These have been established to provide facilities of accommodation and efficient training to the members of the Defence forces.

2. The Military Stations exclusively cater for the Defence personnel. Unlike other urban areas, these stations are not affected by demographic growth. Almost the whole population consists of Defence personnel and members of their families. The employment pattern of the stations remains unchanged. The growth of population is also negligible. There is no problem of slums development, congestion of population and traffic hazards in these stations. We can easily say that the Military Stations are not affected by the usual problems of urbanisation visible in civil towns.

3. The Cantonments are established under the Cantonments Act, 1924, as amended from time to time. Under Section 3 of the said Act, the Central Government may declare any place, in which any part of the forces is quartered, to be a Cantonment, 62 Cantts had been established under the said Act. These were established before independence and their administration is run according to the provisions of the Cantonments Act. The planning of new Cantts. Military Stations is governed by certain specific norms and guidelines laid down by the Government and contained in a book known as 'Handbook' on Cantonment planning. In the 'Handbook' emphasis has been laid on all aspects including advance planning, rationalised development, improvement in environment and maintaining ecological balance. One of the foremost requirements in the planning of the Cantonments is preservation of existing environment and development of environmental features to provide an atmosphere in which the health of Defence personnel can be maintained and adequate facilities for their training can be provided.

4. The civic administration of the Cantonment area is run by the Cantonment Board constituted under the Cantonments Act. The Cantonment area is divided into the bungalow area and the civil area. The bungalow area is meant for accommodating the troops only. No constructions in the bungalow area

can be carried without obtaining No Objection Certificate from the concerned military authorities. The land in this area is Defence land and no private construction is allowed.

The civil area is under occupation of the local civil population. This area forms the nucleus of the Cantonment where shops, cinemas and other like facilities exist. There is a Civil Area Committee also to look after the proper development of that area. Cantonment Board is responsible to provide civic amenities such as water supply, drainage, sewerage etc. in the civil area. Private land in very small numbers is also available in the civil area. Construction in the civil area is governed by the bye-laws made by the Cantonment Board under the Cantonments Act. No construction is allowed without the prior sanction of the Board.

5. With the passage of time, the pressure of population in the civil area of the Cantonments has increased. There has been a continuous pressure on the use of land in the civil area and this has resulted in encroachments and unauthorised constructions. Though action in accordance with the provisions contained in Cantts Act, 1924, and Public Premises (Eviction of Unauthorised Occupation) Act, 1971, are taken to remove unauthorised constructions and encroachments yet there have been a large number of encroachments etc. Due to the time-consuming process under the Acts and due to the fact that the courts being very liberal in issuing stay orders against eviction. Interference from the local politicians, elected members of the Cantonment Boards, also results in delay in eviction.

6. It may, however, be mentioned that most of the land in the Cantonments belongs to the Ministry of Defence. Some of the land is held by private persons on various terms such as 'Old Grants', 'Cantonment Code Lease', 'Lease under Cantonment land administration Rules' etc. In order to encourage planned construction in the Cantonment civil area, the Government had decided a few years back that the land holdings in the civil area may be converted into 'freehold' on payment of market value of the land to the Government.

7. Most of the Cantonment Boards in the country are state aided. Grants-in-aid are provided to them

for running their day to day administration. Special Grants-in-aid is also provided to the Cantonment Boards to take up developmental activities. From the year 1983-84 onwards, it has been decided to give Services Charges to the Cantonment Boards to enable them to undertake more and more development programmes.

5.1 DEPARTMENT OF DEFENCE RESEARCH & DEVELOPMENT

Forwarded under D.O. No. Works/99499/RD-28 of 7 October 1986.

Defence R&D Centres and its Impact on Urbanisation Introduction

1. Defence R&D Orgn. in the Ministry of Defence is responsible for research, design and development weapon systems and equipments required by the Defence Services. The impact of high technology on the management of defence affairs has considerable effect on the security of the country. Defence Services need weapon systems and other equipment compatible with the latest hardware available in the world market. Most of the sensitive and strategic equipments are not available freely for purchase and, therefore, an in-house competence and capability has to be created within the country to meet the requirements of strategic weapons and equipment.

2. Defence R&D Orgn. is presently engaged in the design and development of a wide spectrum of equipments in the frontier areas of technology. This work is carried out by DRDO in a chain of laboratories spread all over the country. At the present time, R&D Orgn. has 45 laboratories/establishments under its central which are equipped with highly talented scientific and technical manpower and modern equipments and instrumentation systems to conduct the assigned tasks. Certain new laboratories are being planned during the current plan period to work on futuristic projects dealing with advanced technology.

Background Information

The laboratories of DRDO are located all over the country. The major R&D Centres being Hyderabad, Bangalore, Avadi, Cochin, Pune, Delhi, Kanpur, Dehradun, Tezpur, Manali, Bombay, Gwalior, Jodhpur, Agra, Chandigarh, Almora, Ahmednagar and certain locations in the forward areas, close to the border. The strength of R&D laboratories in terms of manpower varies from 200 to 4000 persons depending on the function of a laboratory. Most of the work carried out in R&D laboratories is of high security grade classification and entry to the Estts is strictly regulated. The sites where these laboratories have been located were selected as far as possible away from town-centres keeping in view the need of security. Efforts are made to discourage growth of urban centres around the R&D laboratories to meet the stringent requirements of security and safety. As regards the residential accn, only few R&D Centres have been provided with self-contained townships close to the laboratories and these are also away from the town and urban centres.

Local Perception of Urbanisation

The location of R&D Estts and its townships are carefully selected keeping in view the role of a particular Estt. Barring few Estts where the fall-out of R&D activities may have relevance in the civil sector, the guiding principle for the location of an R&D Estt is to keep it away from the city centres. Therefore most of R&D centres are outside the civil or, where applicable, cantonment limits. This factor by itself inhibits the growth of urban settlement. The security requirements of R&D works calls for enforcement of positive security measures whereby contact with local population becomes minimal. This in effect means that entry to R&D Estts and even the townships is regulated. The townships are provided with necessary infrastructure like community hall, shopping centre, schools, medical facilities etc. Which are open to the residents and employees of the Estt. In view of the self-sustaining facilities being progressively provided to R&D centres, the local population does not find job opportunities & commercial incentive even in the unorganised sector which could have influence the growth of settlements close to R&D centres.

Identification of Problem

In view of the factual position explained above Defence R&D Orgn. has not encountered any problem relating to urbanisation around the Defence Estts. Barring few cases, where small shops dealing with day-to-day necessities have come up which the employees visit while returning from work to their house, no major growth of urban population has taken place. R&D centres successfully run co-operative shops subsidised sales outlets which in effect is a discouragement to commercial ventures leading to job opportunities. It has, however, been found that in some of the new R&D Centres which are located 20-25 kms away from the township where the communication has been built by R&D Orgn, certain urban development is taking place alongwith the road because of opening-up and access to the land has become possible due to location of Defence R&D estts. Such urban developments are by way of urban housing where private parties have purchased plots for construction of houses. Such a growth is a natural phenomenon because land away from the city centre is comparatively cheaper and the civil amenities like road, power, water supply usually gets extended up to new R&D centres at the cost of Deptt. of Defence R&D.

Future Strategies for Growth

The future strategies for growth of R&D Centres relate to the expansion of technical facilities and augmentation of residential and infrastructure facilities in the R&D townships. Normally R&D centres at the time of selection of site are provided for 100% expansion potentials at a future date. In light of this provision, the growth of R&D Centres takes place as per the Master Plan in an organised manner. This has however no bearing to the growth of urban centres and the civilian population.

Housing and Infrastructure

The R&D Centres are presently not fully equipped with the housing and social infrastructure facilities at most of the locations. This is primarily on account of non-availability of adequate funds. However, a planned programme for provision and growth of housing and infrastructure facilities has been made and these amenities are being created progressively. In view of the fact that adequate housing facilities are not available at the present time, a large number of our employees have to fall back on the civil sector for these amenities. Most of the employees hire houses in the town and make use of the amenities, schools, hospitals, communication, as available to the general civil population. At certain R&D Centres, the Deptt. provides dedicated transportation facilities from the town centre to the place of work and their return. This trend is likely to continue for quite some time because the anticipated built-up of housing and infrastructure facilities is not likely to keep pace with the growth of R&D centre in next one decade.

Orderly Growth R&D Centres

It may be mentioned that R&D Centres have been planned for regulated growth and it has been possible to achieve planned growth inspite of paucity of resources. In the system of planning being pursued by DRDO, there is no scope of haphazard growth of technical or township facilities.

Intensity of Growth

The scale and intensity of growth of existing R&D Centres caters for 10% to 25% growth, depending on the Charter of duties of an Estt. Our priorities presently are directed towards creating new high technology research centres and test facilities at selected places. It is anticipated that Deptt. of Defence R&D would be spending approx. 100 crores per year for the next 5 to 7 years for the creation of new facili-

ties and the growth of existing R&D facilities and township. The bulk of this money would go towards the creation of modern test centres in large open tracts of land in areas far away from town centres. The growth of our existing R&D Centres and township is likely to get stabilised in next 5 to 7 years due to saturation of available and the need to keep the size as a R&D Centre within the limits set for optimum management of an estts.

Conclusion

The Charter of Duties of Defence R&D Orgn. calls for design and development for futuristic weapon systems and equipment. These activities mostly relate to high technology work which is classified in nature and by necessity most of the R&D Centres are located away from townships for the reasons of security. As far as possible, growth of urban centres around R&D Estts. and its townships are discouraged. One of the methods of ensuring this objective is to acquire sufficiently large tract of land for future expansion which acts as a buffer zone for the present facilities and ensures isolation from civil sector activities.

The size of R&D Centres is comparatively small. It does not lend itself to urban to sub-urban employment opportunities are attract local population and therefore there are no incentives for the local population to build settlements around R&D Centres. Also, most of R&D Centres are dealing in high technology work in the frontier areas of technology and the fallout from such activities have very little direct bearing on the local population or the trade. However, it contributes significantly to up-grading of technology and production in national industry and science and technology in general.

In view of the above position, Defence R&D Centres do not lend support to growth of urban centres around its Estts. and, therefore, its impact on urbanisation is negligible.

6

Ministry of Energy

6.1 Deptt. of Non-Conventional and Energy.

Views of the Department of Non-Conventional Energy Sources on the Various Aspects of Urbanisation.

The Department of Non-Conventional Energy Sources is concerned with development and utilisation of solar energy, wind energy, bio-gas, biomass and other such types of non-conventional energy. The views in regard to various aspects of urbanisation are given below :—

- (i) While designed building such as residences, offices, schools, etc. care should be taken to introduce solarpassive architecture to reduce energy consumption both for heating and cooling applications. It has been found that simply by changing the orientation of the building, a lot of energy can be saved.
- (ii) In urban areas, people use not water for variety of applications such as for cooking, washing cloths and utensils, taking bath etc. The hot water can be supplied through use of solar collectors. While designing the buildings provision may be made to introduce such solar devices which may produce hot water and also light through the solar photovoltaic route.
- (iii) Daylight could be used to minimise the lighting requirement during day-time in all kinds of buildings.
- (iv) Inbuilt solar cookers on south-facing walls of residential and other buildings could be constructed to reduce consumption of cooking energy in domestic and other sectors.
- (v) In certain buildings, solar air-conditioning can also be introduced while designed the building itself.
- (vi) Decentralised power systems using strilling engine for steam/organic ranking cycle can also be installed. The capacity of the power plant can be anywhere between 25 to 100 KW or higher. Such a power plant may meet the energy requirement for supplying water etc.

- (vii) Urban waste should be treated to prevent pollution and extract energy at the same time. The sewage and liquid wastes can be treated and utilised for production of biogas which can be used for generating electricity needed for the plant and the surplus could be piped for cooking purposes. Solid wastes can be used to produce electricity through the incineration or pyrolysis routes. These types of facilities enable resource recovery while treating the wastes.

6.2 Department of Coal

Communication No. CIL/C-5C/55195/464 from Department of Coal.

Matters relating to urban development are primarily the concern of the State Governments, who have their full-fledged town and country planning departments. However, here under we are giving a picture of the coalfield areas, with which Coal India Limited and its subsidiary companies are concerned.

Coal is the main source of energy. Coal mining is a labour intensive industry, spread over eight states of the country such as Assam, Andhra Pradesh, West Bengal, Bihar, Maharashtra, Madhya Pradesh, Orissa and Uttar Pradesh. After nationalisation of the coal industry, large-scale expansion programmes were formulated. The production of coal of 70 Million Tonnes in the year 1973-74 has increased to 134 Million Tonnes in the year 1985-86 and it is likely to reach 196 M. T. by the end of the Seventh Plan Period and about 360/370 M. T. by the turn of the century.

As is well known, coal is the gift of nature and a coal mine has to be development at the place where coal is found. The infrastructure has to be planned near the pit-head tops as well as within the radius of 3 to 5 kms., but only caution is taken that no permanent structure built is in the Coal Bearing Belt.

Collieries are situated mostly in the rural areas, on the periphery of which gradually small townships have developed. In the past, there was no planned expansion of the infrastructural facilities and, to a large extent, the growth was haphazard. Most of the construction work relating to the operation of mines

had been undertaken by the erstwhile employers. To what extent the growth of the townships and cities falling in and around the coalfields was systematic and aesthetic can be judged only by having a look on the townships like Jharia in Bihar Raniganj in West Bengal.

After nationalisation, the construction activities particularly relating to housing colonies, other residential buildings and administrative office buildings have been widespread. This would be evident from the following statistics —

- (i) Number of houses at the time of nationalisation 1.18 lakhs approx.
- (ii) Number of houses as on 30-6-86 2.60 lakhs approx.

Thus about 1.32 lakhs of houses have been built during the last few years by the nationalised coal industry (excepting Singherani Collieries Co. Limited having its operations in Andhra Pradesh and is not a subsidiary of CIL).

Construction of a large number of houses is being planned and it is hoped that by the turn of the century we would need about 3.5 lakhs additional houses at the satisfaction level of 70%. On the financial side it is likely to mean a capital outlay about Rs. 1,400 crores at the prevailing price index. The townships would have to be provided with basic civic amenities like Roads, Water Supply, Electricity, Communication System, Schools, Colleges, Dispensaries, Hospitals, Playgrounds etc. with growing awareness about ecological development, Parks and Gardens would be suitably developed.

Presently our capital expenditure on welfare, of which major portion is spent on housing, is about Rs. 100 crores per annum and this is likely to increase in future to more than Rs. 150 crores per annum.

So far as CIL and its subsidiaries are concerned, the following strategy is being followed with regard to construction of residential houses/colonies. :

- (i) Provision of temporary houses at/near the pit heads for essential staff.

- (ii) Building clusters of houses on small patches of land, available near the coalfields.
- (iii) All future construction should be on Coal Bearing Land.
- (iv) Ban on single storeyed construction; instead multistoreyed houses will be constructed.
- (v) Planning of modern satellite townships.
- (vi) Planning Central township for about 0.5 to 1 million people.
- (vii) Well connected roads.
- (viii) provision of circular railway for connecting satellite townships etc. etc.

The problems relating to growth of residential colonies and townships around the coalfield areas is totally different from the colonies planned and constructed by other public sector undertakings such as SAIL, BHEL etc. Their working is localised and mostly factory-type working, whereas the work places of CIL are spread over vast areas near coal-deposit sites.

It is but essential to ensure that the resources are spent properly and to the best advantage of all employees, the state and national as a whole. Though we are doing our best to effectively bring about a perceptible change in the quality of life of our employees by constructing modern residential complexes/colonies, we seek co-operation and guidance of the expertise of the Ministry of Urban Development. We are confident that they would be in a better position help from the State Government etc. In case a working media could be thought of and thereby development of Satellite Township/Central City could be planned with the assistance of the Ministry of Urban Development, within a fixed time frame with the agreement of the State Government concerned, we felt that a good and a much needed job would be done and the pace of construction in a planned manner with the modern concept would be accelerated.

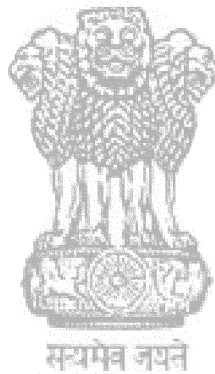
Ministry of Finance

7.1 Department of Revenue

From Communication D.O.F. No. 207/8/86-Ad.-III (EC) of 28 July 1986 from Shri K. Vishwanathan, Joint Secretary ().

Collectorates of Customs and Central Excise are mostly located in major cities/towns or major ports which are Metropolitan cities. The departmental staff faces problems of housing, education, transport,

communication etc. Proper and careful planning is necessary to take care of the requirements of the growing population. The residential complexes may be built for staff in vicinity of the office premises. This will provide proper housing to the staff and also ensure systematic growth of the cities. This will also reduce pressure on transport, thus solving the problems of traffic congestion and pollution.



Ministry of Food & Civil Supplies

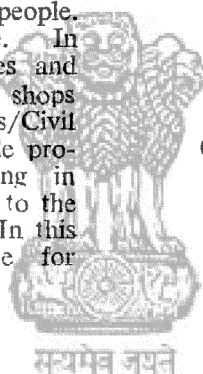
8.1 Department of Civil Supplies

From communication D.O. No. 15 (3)/86-EIR from Shri P. N. Kaul, Economic Adviser

The main function of this Department is to see that people get supplies of essential commodities and items of mass consumption of good quality at reasonable prices. With growth in population of cities and towns, several problems crop up. A large segment of the urban population consists of poor people. Their number is likely to grow in the future. In order to make available essential commodities and items of mass consumption through fair price shops and through the retail outlets of Cooperatives/Civil Supplies Corporations, it is necessary to provide proper and cheap accommodation so that people living in slums and congested localities have easy access to the facilities being provided by the Government. In this connection, the following suggestions are made for

consideration of the National Commission on Urbanisation :—

- (i) 10% of built-in shopping space in all new colonies in urban areas (private or public) should be earmarked for fair price shops, consumer cooperatives and State Civil Supplies Corporations.
- (ii) The rent for the consumer cooperatives and fair price shops should be fixed at relatively lower levels as the margins on various commodities sold by them are low. This is being deliberately done to enable them to sell various essential commodities to the consumers at fair prices.
- (iii) In slums areas, the town and city authorities should construct shops for fair price shops/consumer cooperatives so that the people living in slums have easy access to them within their locality.



Ministry of Health and Family Welfare

9.1 Directorate General of Health Services (Central Design Bureau for Medical & Health Buildings)

1. HEALTH FACILITIES—PHYSICAL PLANNING ASPECTS

In the present context of rapid urbanisation, environmental pollution due to industrialisation, overloaded infrastructures, various other inadequate shelter and a socio-economic problems affected the psycho-physical health of urban population and thus health facilities is not only inadequate but also improperly located in most of the urban centres.

The trend is set for migration of population from Rural areas and from smaller urban centres to Class 1 cities, i.e. with population more than 1,00,000, particularly metropolitan cities, due to ample and better employment opportunities.

The health facilities in such Class 1 centres have to serve their own population of the areas of urban-rural fringe, and adjoining rural population in its region.

This needs adequate planning of health facilities, its proper and even location in the city context as per accepted standards, of 4 beds/1000 population (source : Working paper on health facilities for Delhi 1980—2001 by DDA) of five important metropolises which are Delhi, Calcutta, Bombay, Madras and Hyderabad (except 4.5/1000 population for Bombay) from optimum size of a general hospital for 500 beds to 50 bedded hospital according to the population to be served location with in the city. Besides care through general hospital there is a need of a hospital with super specialities for the treatment of cancer, open-heart surgery etc. one for every state, clubbed with a Medical College cum Hospital at regional level within every state as per requirements.

Health is State Subject. However, proposed standard for health facilities with required area of land for each category is given in the enclosed table which is recommendative only.

Category	Beds	Population to be served	Area of required	Remarks
Supper specialities hospital (like All India Institute of Medical Science, New Delhi) including teaching and our research facilities for the treatment of cancer, open heart surgery etc.	750	---	100 to 125 Acres At least one in every	
Medical College cum Hospital at regional level	500	---	100 Acres	
500 bedded hospital including Nurses, Hostel, Including Maternity & Staff quarters, house surgeons hostel & Child care facilities at Ancillary buildings district level	500	125000	35.00 Acres	
300 bedded hospital including Nurses hostel, staff quarters, house surgeons hostel & At Sub-district level ancillary building	300	75000	21.00 Acres	
200 bedded hospital including nurses hostel, staff with Maternity & Child quarters house surgeons hostel and ancillary care facilities buildings.	200	50000	14.25 Acres	
100 bedded hospital including nurses hostel, staff quarters, house surgeons hostel and ancillary buildings.	100	25000	8.00 Acres	
50 bedded hospital including nurses hostel, staff quarters, house surgeons hostel & ancillary buildings.	50	125000	4.25 Acres	
Polyclinic including essential staff quarters 8 to 10 specialis with observation beds service of X-Ray, Lab, E.C.G., etc.	10	60000 to 90000 Person	1.5 to 2.00 ns Acres	
Dispensary 5 to 7 doctors including essential—some of the dispensary staff quarters would have facilities specialist.	10000 to 15000 person		1/2 to 3/4 ns Acres	

II. REPORT OF THE SECOND GROUP II ON ENVIRONMENT AND POPULATION, INCLUDING URBANISATION AND MIGRANTS

1. The major task of development policy is to ensure the mutually reinforcing character of trends in economic, social, demographic and environmental fields. Planning for general development should aim at maximising the positive and minimising the negative influences of economic growth and social change on population and environment which taken together constitute an internally complex and dynamic system. Likewise, interventions in the latter population environment nexus should aim at optimising its positive influences on social and economic progress.

2. Against this general background the Group devoted its attention to specific issues which have been a cause of growth concern about the counter productive interaction between population and environmental changes. From the discussion of these issues a consensus emerged that eradication of poverty and improvement in the quality of life, which are the universally recognised goals of national development, will continue to elude us if development policy delays effective incorporation of population environment concerns in the strategy for all round social and economic progress. The dimensions that ecological deterioration has assumed, on account of population growth acceleration and the failure to give adequate consideration to the adverse impact of economic development progress on the life-supporting systems, are staggering. The group noted also that the Sixth Plan had, for the first time, given expression to this concern about the environmental problems that are emerging to attract wide attention at different levels of policy making among the general public.

3. The process of progressive deterioration of the country's environmental endowment, constituting the main resource base, has been continuing for a long time but there is some evidence that it had gained tempo during the planning period, which was also characterised by the acceleration of population growth. It is, in any case, at present occurring at a rapid rate.

4. Environmental deterioration, or ecological degradation, has ensured a great variety of forms affecting the interrelated complex systems comprising land, water and atmosphere. Recent research has stressed the importance of land as the basic component more amenable to policy intervention. Indeed, wholesome land management policies will have beneficial effects on the water and atmosphere components of the ecological systems. Even so, it is possible to view land and water management together as the most important element of an environmental policy, requiring urgent attention.

5. One of the major problems that has arisen in the field of ecology relates to vegetative cover of the land surface. This is expressed in such terms as deforestation in most parts of the country and desertification in some parts. The consequences of this process are identified in such terms as soil erosion, uncontrollable surface water runoffs, siltation of reservoirs and river beds and choking of river mouths, all of which have

been very extensively noticed in the country. This type of ecological deterioration is evident even in the case of multipurpose river valley projects. The wholesome purpose of such capital intensive interventions tend to be compromised in the long run on account of uncontrolled processes of over exploiting the vegetable resources in areas and failure to take timely action in the matter of developing drainage systems in the command areas. It is possible that such adverse influences were not initially anticipated. More recently, however, project formulation is required to be accompanied by environmental impact evaluation on the basis of which necessary pre-emptive action can be taken. The group is of the view that in designing a project, the ecosystemic approach has become an imperative. For example, the location of a dam and its reservoir as well as the catchment and the command areas should unfailingly be taken together to constitute a well-defined unit of project formulation, execution, and the following tasks of maintenance and administration.

6. Both population growth and industrial development have tended to cause considerable damage to the national drainage system. It is said that about seventy per cent of the surface flows under human use suffer from pollution of varying degrees. This has adverse effects on health of the people, particularly of those having no access to protected water supply.

7. Damage to water systems is not limited to the pollution of rivers but extends to coastal areas as well. The Sixth Plan has noted that the absence of protective measures has led to over-exploitation of marine resources in such places as the Gulf of Manner in Tamil Nadu and Pirotan Islands in Gujarat. The Plan also points out that coastal mangroves, which formed a vital protection against cyclone damage and erosion, have been lost from most of our coastal areas.

8. Environmental pollution relating to air is emerging in the country on a scale which is causing great concern. The problem is becoming particularly in large metropolitan and industrial towns. This pollution is due to both domestic fuel consumption and industrial emissions.

9. While it is possible to go on narrating the different types of environmental problems created by processes of population growth and development, in the present context perhaps a more pointed attention is necessary to the interaction of population with the ecosystem. Population growth accentuates the pressures on the resource base and tends to over-exploit that base to the extent of greatly reducing its potential. Further, general population growth tends to generate processes of population redistribution which are often dysfunctional to the goals of development. Trends in population distribution, as reflected by the variety of migration streams of varying intensity within the country, are not amenable to direct intervention by the Government. But there is no doubt that the most important among these redistributive trends, namely, that of urbanisation, deserves considerable policy attention.

10. In this regard, a view of the changing spatial structure of urbanisation and size classification of

towns and cities, suggests that excessive growth of some of the existing larger cities does not seem to be helpful either in promoting viable development processes or in avoiding accentuation of ecological deterioration of urban settlements resulting from concentration therein of the more deprived groups among the population. Even if we are not in a position to develop a national land-use policy, it seems necessary to effectively intervene in the urbanisation process in order to avoid new emergence of huge agglomerations and, where possible and feasible, to reduce the size of agglomerations which have obviously become so excessive as to warrant huge social-investments in the provision of urban amenities and services.

11. Urbanisation policy needs also to be tailored to the requirements of a hierarchical system of urban settlements which are functionally necessary for agricultural growth in particular and rural development in general. Pointed attention should, therefore, be given to the development of small towns, including in particular rural market towns. The Group was unanimously of the view in this regard that a policy of strong incentives should be operated in promoting the establishments of infrastructure services, both economic and social, at nodal points in the national systems of transport, communications and power.

12. In this regard, the Group also felt that all possible avenues of decentralised production should be explored. An encouraging example of such a possibility is decentralised production based on micro-electronic technology, which can be said to be neutral to scale, not capital intensive, and not labour displacing. The particular attraction of this innovative technology is that it has no adverse effect on the environment. The Group was of the view that such technologies will help to optimise functional interaction between rural and urban population.

13. The Group was of the view that with regard to ecological deterioration internal to urban settlements, it is necessary to adopt what may be called new technologies for waste disposal, recycling of waste, treatment of industrial effluents, and positive encouragement to use of newer technologies which are non-polluting in nature, for example, solar power usable even for domestic purposes. The Group noted in particular the possibility of taking synergistic social action for improving environmental sanitation, particularly in rural areas, by ensuring full utilisation of human and animal wastes in the production of biogas which should help in preventing deforestation that is traceable to the growing domestic fuel needs of the people in general.

14. On the whole, the Group noted the staggering dimensions of the ecological degradation that has already taken place. The Group also noted that, if no positive steps are taken for promoting the necessary social action jointly by official and voluntary agencies, the situation will continue to worsen. The impact of the ecological deterioration evidently varies from region to region and from class to class. What is even

more important is that the impact is relatively much greater on women and children. It has also been held with some justification that the neglect and oppression of women tends to accentuate the processes of environmental degradation. The improvement of life-supporting systems which are embedded in the environment are a prerequisite to nurturing the new generation, apart from making life more liable for the present.

15. While it is possible to conceive of a holistic environmental policy which may subsume the development processes relating to society, economy and population, the Group is of the view that more pragmatic steps are needed as a part of the ongoing development process. In this regard, it is possible to derive encouragement from the new health policy which has accepted, in its totality, the primary health care concept as propounded by the Alma Ata Conference. This concept places emphasis on preventive, promotive, and rehabilitative health care systems. The concept, in its operative part, rests on effective community participation, not merely in supervision and maintenance of the primary health care system but also in its formulation and establishment. The Group is of the view that community participation in dealing with pervasive ecological degradation in a decentralised manner would be the most cost-effective operation that one can conceive of.

16. Considering the dimensions of the task to be undertaken, it is possible to hold that, in addition to community participation, it may be useful to link it with other components of development related particularly to employment generation. It is possible even to argue that long spells of unemployment in rural areas may be destructive of environment for the simple reason that people may start living on community capital represented by the surrounding environment. One way to restore and enrich ecological endowment is to utilise programmes like the national rural employment programme and the allied employment guarantee scheme and concentrate on activities like landscaping, soil conservation, social forestry, renovation of tanks and utilisation of ground water. This would strengthen the base of agricultural and allied activities on an expanding scale, affording employment opportunities on a sustained basis.

17. In all positive programmes designed for generation of employment or for restoration of our environmental resources, it will be greatly desirable to enlist the participation, particularly, of women and youth. If we recognise that women have been at a greater disadvantage from the destruction of environment, as noted above, and if we further recognise that in several movements for restoration of the environment, women have played a leading role, for example, in the Chipko Movement, it is but obvious that the scope for participation of women in programmes like these, which are designed to reduce their hardships and improve their control over the environment, should be as large as possible.

III. EFFECT OF URBANISATION ON HEALTH

Due to rapid urbanisation in any developing country, a few health problems will naturally be encountered. They are dependent on the speed at which the urbanisation takes place. People who are migrating from rural areas to urban areas usually try to settle in and around the construction sites. These periurban zones are not fully covered with necessary facilities for safe drinking water supply, disposal of human waste, housing and other essential amenities. This leads to overcrowding and increase of communicable diseases e.g. Tuberculosis, Malaria, Leprosy among adults and diarrhoea and malnutrition amongst the pre-school group. The other health aspect is related to social diseases e.g. alcoholism, STD, broken homes, juvenile delinquency etc.

This sort of maladies originating from urbanisation can be avoided by short/long-term policies, including planning of city design, arrangement for sewerage and water supply, preventing hazardous growth of shanty towns and slums etc. A scheme of proper zoning of industrialization which can create environmental pollution including dust, smoke, noise etc. must also to be considered.

IV. A BRIEF ON HEALTH OF THE URBAN SLUMS

Problems

All urban areas have certain classic problems. Poor and middle class people are crowded in highly unhygienic environmental conditions, in slum areas or other crowded areas. In these places, the environmental sanitation is poor and in the case of slums, totally lacking; water supply is inadequate or absent, waste disposal is improper; people are poor and unable to afford costly medical care; health facilities are mostly inadequate, if not totally absent. These conditions provide a fertile ground for spread of diseases.

2. The Primary Health Care facilities in urban areas, especially in thickly populated pockets, slums or areas inhabited by vulnerable section of society are, thus almost absent and health services in a city tend to be largely cure oriented through hospitals and clinics.

3. As a result of poor environmental sanitation and lack of primary health care in the urban slums, both mortality and morbidity among the inhabitants of the slum areas, particularly children and mothers is very high. It is estimated that in 1981, 160 million people live in 3245 towns. During 1971—81 urban population growth was 4.6% as against national growth rate of 2.5%, 32 to 40 million people live in urban slums. By 2000 A.D. slum population is expected to be 50% of the total urban population and urban population is expected to be 33% of the national population. 13 million children live in slum areas of which 3.6 million are under 4 years. It is estimated that about 3 lakh urban children die annually from diarrhoeal dehydration. 50% of slum children are anaemic and malnourished. Out of total urban deaths, 44% are

children and 50% of infants die within the first month, 29% of infant deaths and 22% of child deaths are without any medical care.

Remedial Measures

The Ministry of Health, set up a Working Group to go into these problems and suggest remedial measures in the year 1982. The broad recommendations of the Group are as under :

- (i) An integrated are a sub-centres approach, with suitable outreach service is essential in the urban areas to provide for promote and preventive health care, rudimentary domiciliary treatment and for advice as well as supplies to family planning acceptors. There will be referral from these centres to the nearest hospital for clinical and specialist services.
- (ii) The modules of service delivery as presented in the recommendations are considerable suitable to achieve that objective.
- (iii) This module service should be achieved by integration and reorganisation where necessary of the existing services and staff strength. To the extent possible, additional staff should be avoided as existing staff available for providing the services should be fully deployed without duplication. The staff requested in the model is the nucleus core staff to discharge the minimum work-load. As more services are progressively taken up by these centres, the staffing pattern as admissible for the several scheme so taken up by them should also be made available to these centres.
- (iv) The centres may be operated by the State directly or the municipal bodies or by voluntary agencies, as the case may be. For effective implementation of the programme, a system of payment by results and use of part-time functionaries, paid according to performance, is suggested.
- (v) While the module is applicable to all urban areas to start with, priority attention needs to be paid to slum areas or areas inhabited by underprivileged sections of the society. For this purpose, areas which have at least 40% people living in slum areas or in congested areas would be taken up for coverage during the current plan period. the percentage being progressively lowered until all urban areas are covered in due course.

During the last three years the Ministry of Health has approved creation of 792 urban health posts and 14 City Family Welfare Bureau in 119 towns (having population of more than one lakh) located in 10 States and 2 Union Territories. The scheme still in its early stage, is being evaluated for further extension.

V. PROPOSAL OF BUILT-IN SYSTEM OF ANTI-MALARIA WORK/OPERATIONS AS A PART OF URBAN EXPANSION PLANNING

Anti-larval measures consisting of application of larvicides, reduction of breeding sources and deployment of other biological control agents like larvivorous fish are undertaken in the urban areas because the mosquitoes' breeding places are limited and therefore can be treated to provide protection to large population in a unit area. Such a measure is uneconomical in rural situations where there is no organised drainage system and there are enormous breeding places.

In most of the cities and the towns, urban expansion is going on both horizontally as well as vertically. Such activities are taken by government/semi-government agencies such as slum boards, PWDs, railways, urban development authorities. If a few precautions mentioned below are taken, the malaria and mosquitoes problem can be solved to a great extent.

1. Selection of the Site for Urban Development

Certain areas due to high sub-soil water table, seepage mosquito-genic conditions, are more prone to mosquito-borne diseases. There is a need to select a site for urban development which does not have the above problems but these aspects are not paid due consideration when a site for urban development is selected for residential purpose. Often some of the Urban Development Agencies do not have a built-in public health engineering department neither do such agencies consult Health Authorities. It is very important that selection of sites for urban development must have approval of the Public Health Department. It may be remembered that the problems created during construction is very difficult to rectify after constructions are over.

2. Framing Bye-Laws

So far as construction of building are concerned, the local bodies/urban developmental agencies have their bye-laws. But often there are no bye-laws directed towards reduction/prevention of mosquito breeding sources in domestic and extra-domestic situations. These bye-laws not only should be framed but also should be strictly enforced and all the agencies involved in the construction activities should be brought under legal provisions, if they do not follow the bye-laws. If these bye-laws are strictly enforced, there will be saving on man-power and the larvicides and anti-malaria drugs. In Bombay city, bye-laws are strictly enforced and the city is a good example that, despite developmental activities, malaria has been kept at a very low level.

3. Migration of Labour Population and Need for Anti-Malaria Measures

Construction projects undertaken by different agencies bring labour population from outside who live in huts at the construction site so long the project is not over. The project authorities do not carry out anti-malaria/anti-mosquito measures in the labour huts. A disease like malaria rapidly spreads into the neighbouring areas which are under the control of the local bodies. These local bodies do not have adequate funds and resources to take necessary measures in the labour huts. Therefore, it is very

important that the project should earmark at least 1 to 2% of their total cost of construction as health charges. The money should be deposited with the Municipal Health Officer before undertaking the project so that he can make arrangements for necessary men and material for taking up timely action on malaria control.

4. Increase of Slums

Slum areas in most of the urban area are proliferating not only on the outskirts of the cities/towns but also in the heart of the cities. No drainage and sanitary facilities exist for the slum areas. These slums are problem for the anti-malaria measures. The slum board/local bodies/urban development agencies must ensure that no further/slums are created in their areas. This should have political support.

5. Coordination Committee

The urban areas should have intra-sectorial coordination within the agencies involved in construction/anti-malaria work as well as inter-sectorial coordination between different agencies like local bodies, defence, railways etc. who also carry out anti-malaria measures in the same town/city.

The anti-mosquito measures have to be carried out as harmoniously and cohesively as possible by all the agencies in an unified manner. Inter-sectorial coordination committees should be formed under the chairmanship of Commissioner of the Municipal Committee and the Member Secretary should be the Health Officer of the Municipality. The Committee should meet to discuss mosquito problems and suggest remedial measures.

6. New Township

Often new townships come up adjacent to existing ones. These areas have rural ecology which used to be sprayed with insecticides by the state malaria department. The surveillance machinery of the State department used to function in these areas. A sudden influx of labour population for building activities jeopardise the NMEP operations in the area. These areas now require urban malaria control strategy but there is no infrastructure to take up the job immediately. The adjacent local bodies are also put into much difficulty due to increase of malaria incidence. The local bodies do not have sufficient man-power and resources to meet such a jeopardised situation.

Thus, whenever, such a major decision is taken, it should take into consideration the need for an organisation for anti-malaria/vector mosquito measures. The staff and material required are given below :

7. Requirement of Staff and Material

Staff is provided on the basis of the area of a town. The town is divided into wards, each of sq. kilometres. The staff for one ward is as follows :—

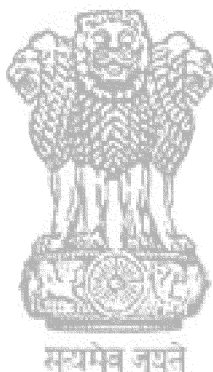
- | | |
|------------------------------------|-------------------------------|
| 1. Biologist | one per town |
| 2. Malaria Inspector | one |
| 3. Insect-collector | one |
| 4. Superior Field Worker | ten |
| 5. Field Workers | fourty |
| 6. Surveillance Workers | One for every 20,000 people |
| 7. Technician | one for every one lakh people |

The following larvicides and adulticides are required :—

Larvicides	Scale of supply
1. MLO	0.5 litres per capita
2. Paris green	1200 kg per million people
3. Temephos	0.5 kilolitre per million people
4. Fenthion	one kilolitre per million people
Adulticide	
1. Pyrethrum extract	2%, one kilolitre per million people
2. Kerosene oil for mixing pyrethrum extract	20 kilolitres per million people

6. Health Education

Health Education should form an integral part of life in the urban areas. Television, radio, cinema slides can play a significant role in soliciting people's opinion/participation in proper implementation of the anti-malaria/mosquito measures. Most of the urban areas have associations for welfare of the people. If these associations are given some education on various health aspects, including malaria, as to what they should do towards prevention of contracting the diseases, much can be achieved to health education. About 1% of the total budget should be earmarked for this. There should be a health education organisation built-in the local bodies. Staff suggested for these are one Health Educationist and one Health Education Assistant.

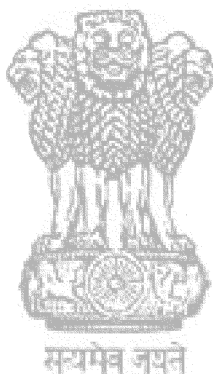


Ministry of Home Affairs

From communication D.O. No. 24013/53/86-GPA,
VI of from Shri Sanat Kaul, Director (SP).

In view of the growing security problems the planners must take into account all security angles which are involved in planning urbanisation ... further,

... provision for police stations and fire stations should be kept and land earmarked for them. As far as possible entries and exits should be such that a constant vigil could be maintained at crucial points, if required.



Ministry of Human Resource Development

11.1 DEPARTMENT OF CULTURE

From communication No. F.46-43/86-General (C&V) of 7 August 1986 from Shri Vijay Karan, Deputy Secretary, Department of Culture.

In our opinion the interest of the Centrally protected monuments which are being looked after and maintained by the Archaeological Survey of India should be suitably Safeguarded from any likely adverse effect of urbanisation. It is, therefore, suggested that the National Commission and suggesting a suitable direction for the carrying out of future urbanisation programmes, may also duly take into consideration the interest of the ancient and historical monuments and ensure by making suitable recommendation for controlling and/or stopping constructional and other activities in their close proximity which may be required to be undertaken in the course of carrying out future urbanisation programmes by various agencies in the country, both Government and private, so that the ancient set-up and the environs are not adversely affected.

11.2 DEPARTMENT OF YOUTH AFFAIRS & SPORTS

From communication No. F.9-1/86-DI(SP) of 4 July 1986 from Shri Deepak Narain, Desk Officer, Department of Youth Affairs and Sports.

Urbanisation leads to pressure on land and in a modern progressive society, therefore, there is great urgency to bear in mind the need for preservation of natural environment for the health of the populace. Sports and games are a popular means of maintaining physical fitness and in order that sports and games are promoted meaningfully, it is necessary that sufficient open spaces are preserved and developed. Hence, this Department is of the view that in all future plans and schemes of urban development, adequate provision should be made for provision of adequate sports infrastructure, e.g. play-fields, stadia, gymnasias, swimming pools, sports complexes, etc. The Department of Youth Affairs and Sports have a number of schemes for mass participation in sports and games and would request the Commission on Urbanisation to give due importance to this fundamental ingredient of human resource development, while planning and developing of new urban structures or while seeking to infuse new life into older urban conglomerates.

Our views with regard to development of play-fields in schools are given in Annexure I.

ANNEXURE I

(i) Primary Schools

It is felt that *Primary Schools* should have at least minimum facilities for holding mini-athletics and sports events for which at least an area of 0.50 hectare should be provided. You will agree with me that this area of 2500 sq. m. (50 m. length and 50 m. breadth) would enable the small children to go for short sprints (between 25 and 40 metres) and play other games like kabaddi etc. which could be considered to be the *sine qua non* for them.

(ii) Middle Schools

The most formative phase for budding sportsmen is undoubtedly the middle school, where they could be discovered and caught young. Therefore, the Department of Sports feels that one hectare of land (100 m. × 100 m.) is the barest minimum which could be allotted to a middle school in which the students will be able to play games like football, hockey, athletics and gymnastics.

(iii) Higher Secondary Schools

As a natural corollary, higher secondary schools do need bigger ground and better facilities for sports including at least one indoor hall for indoor games. Therefore, an area of 1.50 hectare seems a must for giving the facility to higher secondary school students aspiring for sports. This area would not only provide space for football, cricket and hockey grounds but will have a clear space for other field events like 100 metres sprint, basketball, volleyball and gymnastics.

(iv) New Colonies/Senior Higher Secondary Schools with Hostel Facilities

This is an area whose importance perhaps little or no emphasis. In an age of rapid urbanisation, 2.50 hectare seems to be the basic minimum to enable the urban population to stretch themselves and go for outdoor games. The facility should have universal application and thrown open and made available to both students and residents alike of the area.

Ministry of Industry

12.1 DEPTT. OF CHEMICALS & PETROCHEMICALS

Communication No. 25011/18/86-GC of 22 July 1986 from Shri S. Guria, Deputy Secretary, Department of Chemicals and Petrochemicals.

Urbanisation has a direct relationship with industrialisation. Certain industries are highly hazardous and polluting. Fool-proof safety measures and control of air and water pollution, apart from other infrastructural facilities, are essential in industrial complexes/areas. Various legislations, such as Factory Act, Explosives Act, Inflammable Substances Act and other Rules and Regulations exist to protect workers and environment. Policies on location of such industries as also from the point of view of concentration and dispersal thereof, have also been enunciated by the department of Industrial Development in the Ministry of Industry.

2. The Chemicals and Petrochemicals Industry is largely in the category of highly polluting industries. Stringent conditions for pollution control are stipulated for this category of industries. For ensuring safety, a special condition is also attached to the Letters of Intent/Industrial Licenses, for units based on hazardous processes, prescribing that adequate steps will be taken to the satisfaction of the Government for ensuring safety in plants and further, before going into trial production, the adequacy of steps taken in this regard should be established to the satisfaction of appropriate Government authorities.

3. In regard to the advantages and disadvantages of concentration vis-a-vis dispersal of chemicals and petrochemical industry, this Department is of the view that a specialised study by experts is essential. While concentration of industries in a particular area will, no doubt, enhance the degree of hazard in that area, it will, at the same time, also provide for more effective methods for containment, control and dealing with such hazards, with better advance planning of location of units, identification of residential zones in such cases, better infrastructural facilities like effective means of communications, common facilities and planning for dealing with accidents, by providing better hospitals, fire-fighting and safety service, pooling of effluent treatment facilities etc. On the other hand, while dispersal of industries will lead to disper-

sal of hazards, it will not necessarily ensure minimisation of hazards. Individual units may not be in a position to provide safety and effluent control facilities and other infrastructural facilities to the desired extent. Apart from this, the overall advantage in locating the down-stream units nearby the main complexes producing the raw material, need also to be kept in view. The National Commission on Urbanisation may, therefore, like to institute a specialised study in this regard as suggested.

4. It has to be recognised by all planners that unless industrial housing and other infrastructural facilities are planned, in advance, the setting up of new industrial complexes will lead either to immediate urban decay (if too close to an existing urban agglomeration) or future urban chaos, on account of rapid deterioration in living conditions, especially of working classes in large cities and increased slums and environmental pollution. One easy and ready-made solution would be to insist that industrial housing is provided by any new industrial unit. This will, no doubt, increase the cost of the projects but, taking a macro view, it will really be no increase at all. If such industrial housing is provided as an essential pre-condition of an industrial project, it will ensure a more planned urbanisation of the area. Also, more rigid restrictions may need to be applied on location of industries in the standard urban area limits of a metropolitan city and the municipal limits of a city. Limits for exposure to toxic and chemical substances and penalties should be determined and made more deterrent.

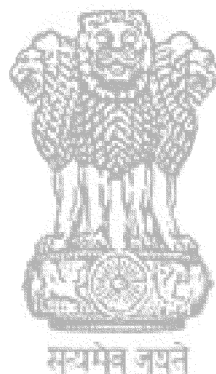
5. This Department would further suggest that, once a major complex is proposed, a master plan for related urbanisation should be notified and a 'Notified Area' authority may be constituted for planned development. Its authority may be constituted for planned development. It will have to be ensured that no unauthorised construction, including residential accommodation, comes up in that area.

6. This Department also feels that it will be necessary to encourage hazardous units to shift from concentrated urban agglomerations to other areas. At present, there are incentives for setting up new units in backward areas; further, capital gains arising from transfer of buildings or lands used for the purpose of

business and transfer of machinery and plant are now exempt from tax if these are used for acquiring lands or for constructing buildings for the purpose of business at the new place. However, this will be meaningful, only if the owners are allowed to sell such property in urban areas at market price and are exempted from any restriction in respect of such sale, provided they used a significant part of the proceeds to set up new industries in non-congested areas. With this pro-

vision, it should be possible to persuade major industries to shift away from congested urban area.

7. Further, this Department feels that there is scope for improved coordination and inter-action between the agencies, responsible for promoting industrial growth and those responsible for urban planning. This will ensure that industrialisation takes place on the right lines without creating urban chaos.

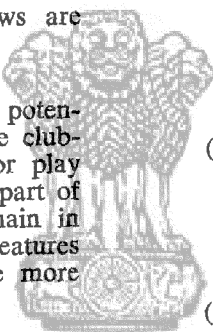


Ministry of Information and Broadcasting

13.1 ALL INDIA RADIO

From communication D.O. No. SAI/AIR/Professional 2/86/717 of 24/28 July 1986 from Shri G. S. Sahi, Senior Architect, All India Radio.

T.V. & A.I.R. complexes in various cities all over the country do contribute to a great extent to physical development in the urban nuclei. Definitely there are certain areas with respect to the AIR/TV developments which can be looked into by the Commission for future course of development. The views are appended as under :—

- 
- (1) The TV Centre site for their extensive potential for outdoor shootings etc. can be clubbed with open spaces like parks or play areas, zoos etc. so that they become part of the public activity rather than remain in seclusion. The site with natural features like rivers, hills, monuments can be more suitable for such development.
 - (2) At the time of finalising Master Plans for a town, it is very important that the specific requirements of microwave and transmitting tower are taken into account so that shadowing at a later stage due to tall structures in-between the complex and the transmitting tower do not pose a threat. Tall structures may form and act as focal and nodal points of the physical form.
 - (3) Reserved spaces of varying scales for under-terminated use in the urban areas may become handy for any future eventuality.
 - (4) The TV transmission developments should be in tune with the space technology. Many present infrastructures, perhaps, can be dispensed with and shall save not only money but environment also.
 - (5) Other transmission requirements of P&T, overseas communications, wireless system etc. to be integrated with the TV tower so that costly infructuous development for transmission by various departments can be avoided to save money and environment.
 - (6) In case, the transmission technology changes and the TV towers become obsolete, we should design them in such a manner that they can be put to other use as tourist landmarks and entertainment centres.
 - (7) The social aspect of TV entertainment need to be fully studied so that this static entertainment, does not hamper outdoor sports entertainment etc.
 - (8) TV antennas (unproductive production) on roof tops create a very bad skyline are most unaesthetic. This should be totally banned and technology developed to use indoor aerials so that our cities can be saved from this unsightly visual pollution.

Ministry of Labour

14.1 VIEWS ON POINTS RAISED BY THE NATIONAL COMMISSION ON URBANISATION

Objectives of the Ministry of Labour

The Ministry of Labour is mainly concerned with the subjects of employment, wages, welfare of labour including safety, trade unions, industrial relations, social security of workers, etc., which appear in the Union and Concurrent List of the Seventh Schedule of the Constitution of India. The Ministry is responsible for laying down the policy for the whole of India on such matters. Besides, the Ministry has executive responsibility in respect of the following matters :

- (a) Implementation of labour laws in respect of labour employed in railways, major ports, mines, oilfields, banks and insurance (having branches in more than one State) and others which appear in the Union List;
- (b) Implementation of social security schemes in the form of health insurance, contributory provident fund scheme for industrial employees (other than coal Mines Provident Fund);
- (c) Administration of the Welfare Funds in respect of workers in the Beedi industry and mines (other than coal mines);
- (d) Co-ordination of work relating to Employment Guarantee Schemes;
- (e) Providing training facilities to unemployed persons to improve their prospects of employment;
- (f) Matters concerned with the International Labour Organisation and the International Social Security Association, including participation in the Conferences and Meetings of these organisations and implementation of the International Labour Conventions and Recommendations of these bodies;
- (g) Organising Indian Labour Conference, meetings of the Standing Labour Committees, Conferences of the Labour Ministers and Labour Secretaries;

- (h) Functioning as a coordinating agency for training in Labour Administration through the ILO, ISSA or other U.N. Bodies;
- (i) Abolition and rehabilitation of bonded labour; and
- (j) Legislation on Child Labour and Women Labour.

Thus it is seen that the Ministry of Labour has functions which call for formulation of short, medium and long-term strategies even if it is not possible to specify short, medium and long terms objectives as such. Though there is no earmarked focus in labour policies on urban labour, the acuteness of problems of labour in urban areas has sometimes made it imperative to introduce schemes oriented to urban labour.

An overview of the present labour and Employment Situation in the country

- (i) *Estimates of labour force, age, sex distribution :*
Labour force projections, based on the usual status participation rates, provided by the National Sample Survey Organisation (NSSO), 32nd round (1977-78) by age, sex and place of residence, are given in Table 1. Surviving children born in the age-group 1-15 will be entering the labour force during the period 1985—2000. The Planning Commission has estimated that country's labour force would be increasing at the annual rate of 2.55 per cent during 1985—90 and 2.24 per cent during 1990—2000 as against the annual rate of growth of population of 1.96 per cent and 1.69 per cent, respectively. The absolute magnitude of addition to the labour force works out to 39 million and 81 million during these two periods. Taking into account the estimated backlog of unemployment as of 1985, the overall magnitude of additional employment to be generated by the year 2000 would be around 130 million. In the 15-year perspective, therefore, a major challenge would be to create this volume of additional employment.

The envisaged urbanisation trends are expected to result in an increase in the urban labour force by nearly 3 to 4 million per annum during 1985—2000. This, added to the existing dimensions of the problem of urban employment demand.

Given the severe over-crowding, the physical limitations to further expansion and the high cost of investment in the metropolitan cities, the policy thrust in the prospective period would have to be to moderate the growth of the cities with million-plus population through a well-defined policy of diversion of the migrant population towards smaller towns and cities. Towards this end, employment promotion policies of urbanisation, urban financing and industrial transport policies would have to be coordinated.

(ii) Generation of employment

Progressive reductions of unemployment have been one of the principal objectives of economic planning in India. It has been envisaged that the growth of the economy would not only increase production but also provide the capacity for absorbing the backlog of unemployment and under-employment and a substantial proportion of the additions to the labour force. Employment and manpower policy in the Seventh Plan has to be viewed against this basic approach.

The Sixth Plan has estimated a net addition to the labour force of the order of 34 million in the age-group of 5-plus during 1980-85. The backlog of usual status unemployment at the beginning of March 1980 was estimated around 12 million. These two together indicated the magnitude of employment to be generated during the Sixth Plan period.

For the Seventh Plan period, information is available on labour force participation rates and unemployment rates based on the 32nd round (pertaining to 1977-78) in the National Sample Survey Organisation's study on Employment-Unemployment (also used in Sixth Plan document) and from the 38th round (pertaining to 1983 for the first two sub-rounds thereof covering the period January-June 1988). The usual status unemployment rates by age-sex-residence derived from these two sub-rounds of the 38th round are given in Table 2. Since medium-term variation in labour force participation rates may not be large, their labour force estimates for March, 1985 and 1990 for the different age-groups have been derived by using the same participation rates (i.e. from the 32nd round) as those which were used for estimating the labour force for the last Plan period (1980-85). These estimates are given in Table 3.

The estimates of usual status unemployment as at the beginning of the Seventh Plan, based on the relevant rates from the 32nd round survey are given in Table 4 for different age-groups and with sex-residence break-up.

However, it would be useful to have estimates of backlog of unemployment based on more recent survey information (on the 38th round), notwithstanding the fact that this is partial and provisional. These estimates are given in Table 5 for the different age-groups and with sex-residence break-up as in March 1985.

This estimates of usual status unemployment takes into account only the principal activity status of the in-

dividuals, whereas some of them might have had subsidiary occupation. According to estimates based on the 32nd round, 4.38 million of the 13.89 million unemployed aged 5 and over in March 1985 had some gainful subsidiary work. The 38th round data suggest that 2.24 million of 9.20 million unemployed in March 1985 had subsidiary work.

It is seen that the estimates of unemployment (usual status) in March 1985 as per the latest information is 9.20 million for the age-group 5-plus. Of this, the urban share is 4.23 million or 46%. When it is seen in the context of the share of urban population in total population (which is placed at 23.31% by the 1981 census), then only the severity of the urban dimension of the problem can be visualised. Nonetheless, a proper comparison of this estimate as at the beginning of 1985, based on the most recent survey data with the estimate as the beginning of March 1980 in the Sixth Plan Document will have to await fuller information from the other two sub-rounds of the 38th Round. Going on the basis of this estimate of unemployment, the overall magnitude of unemployment to be generated during the Seventh Plan period works out to 48.48 million for the age-group 5-plus.

The backlog of unemployment at the outset of the Seventh Plan has been estimated at 9.2 million for the age-group 5-plus. It has also been seen that the net addition to the labour force in this age-group would be 39.38 million. These figures indicate the overall magnitude of employment to be generated in the Seventh Plan. The Seventh Plan envisages a growth rate of 5 per cent in GDP. Besides the sectoral programmes, the package of poverty alleviation programmes aimed at giving self-employment and wage employment to the poorer sections of the community will continue on a significant scale during the Seventh Plan. It is expected that additional employment of the order of 40.36 million standard person/years would be generated during the Seventh Plan with an implied growth rate of 3.99 per cent per annum. The special employment programmes of NRP and RLEGP would generate 2.96 million standard person/year of employment in 1980-90. The employment generation from IRDP has been estimated to 3 million Standard Person/Years (SPY), mainly concentrated in agriculture and other sectors. The projected growth rate of employment between 1984-85 and 1989-90 is given in Table 6.

(iii) Occupational Characteristics

The occupational characteristics of employment in the organised sector are compiled on a regular basis under the Employment Market Information (EMI) scheme of the DGE & T. On the basis of latest available data, the occupational pattern in the public and private sector emerges as indicated in the Table 7.

(iv) Manpower Planning

The Seventh Plan lays emphasis on the harnessing of the country's abundant human resources and improving their capabilities for development. An important aspect of human resources development relates to the development of manpower needed for the fulfilment of the targets of growth of different sectors

of the economy. The objectives of manpower and educational planning so that no plan programme suffers from a lack of the trained manpower that is needed. The problems in this regard are likely to be different for the rural and urban sector for the organised and the unorganised labour force; and specified sections/classes such as the backward classes and communities, including the hill tribal populations.

The stock of educated manpower of matriculates and graduates and above is estimated to increase during the Seventh Five Year Plan period from 47.72 million in 1985 to 64.39 million in 1990. However, all educated persons are not economically active since quite a large number of them pursue higher studies, specially matriculates, while some may not be seeking jobs. The number of economically active educated persons in 1985 is estimated to be 30.84 million out of which about 76 per cent are matriculates and 23 per cent are graduates and above, the diploma holders constituting about one per cent. During 1985-90 the addition to the economically active persons of the educated categories would be nearly 10.6 million. Though it cannot be adequately measured, most of the educated manpower would seek employment in urban areas.

(v) *Training*

The Training Directorate of the DGE&T is looking after a number of vocational training schemes. The important among them are :

(a) *Craftsmen Training Scheme*

Under this scheme, young school-leavers are provided the necessary skills to take up employment as workers in industry in various occupations. Matters relating to policy, standards, trade testing and certification are dealt by the DGE&T. Under this scheme, training is offered in 64 trades through a network of over 1700 State Government's and private ITIs with a seating capacity of 3.1 lakh persons.

(b) *Apprenticeship Training Scheme*

Under the Apprentices Act 1961, training is offered in 134 designated trades to young school-leavers and students of the ITI's who are engaged as trade apprentices. The training is offered in 71 subject fields of Engineering/Technology are engaged as graduate/technician apprentices. Under the Act, it is obligatory on the part of the employers to engage a prescribed number of apprentices. The Act has been recently amended to cover another category of apprentices viz. Technician (Vocational) Apprentice, for providing Apprenticeship Training to the student of the 10 plus 2 Vocational Stream.

(c) *Advanced Level Training Programmes*

Advanced training to upgrade/up-date the existing levels of skills of workers/technicians are offered in the 6 Advanced Training

Institutes and two advanced Training Institute for electronics and Process Instrumentations which are under the direct administrative control of DGE&T.

(d) *Foreman/Supervisory Training Programme*

Training Programmes are offered for training existing potential foremen/supervisors at the two Foremen Training Institutions under the DGE&T.

(e) *Staff Training & Research*

Facilities for Staff Training and Research have been created at the Central Staff Training and Research Institutes.

(f) *Women's Vocational Training*

While the general ITIs are open both to men and women, the State Governments and private agencies never established ITIs exclusively meant for women and women's wings in the general ITIs. There are ever 200 such institutes with a seating capacity of 15,000. In addition the DGE&T have set up one National Vocational Training Institute for women to function as the Apex Institute and 3 Regional Vocational Training Institutes for women. Three additional RBTIS are also being established shortly. These institutes offer training programmes at the basic/advanced instructors level.

To meet the requirements of manpower caused by upgradation of technology, training programmes are being diversified. Two courses in the field of Computer Service have been included under the Craftsman Training Scheme. Facilities for machinists is being created at one of the Advanced Training Institute.

(vi) *Wage Policy*

Employment generation is not synonymous with creating wage employment. It is necessary to combine the provision of wage employment with the creation of conditions for additional self-employment. Besides, the productivity of the labour-intensive, informal urban sector must be raised through better urbanisation and introduction of modern technology.

An important aspect of labour policy pertains to the formulation of an appropriate wage policy. The basic objectives of wage policy are a rise in the levels of real income in consonance with increases in productivity, promotion of productive employment, improvements in skills, sectoral shifts in desired directions and reduction in disparities. Suitable steps have been taken in this directions from time to time and the same will be continued.

(viii) *Employment in Unorganised Sector*

Labour policy should necessarily have provisions for the welfare and working and living conditions of unorganised labour, not only in the rural sector, but also in the urban areas. Although a great majority of unorganised labour is found in the rural areas, an increasing number of workers are shifting to the metropolitan cities and small and medium towns in search of better employment opportunities. In the

unorganised urban sector, incomes are yet to be adequately protected, legal regulations of employment and wages are not only insufficient, but also extremely difficult to enforce where they exist. The effective implementation of the existing legislation, particularly the Contract Labour (Regulation and Abolition) Act, 1970, the Minimum Wages Act, 1948, and the Interstate Migrant Workmen (Regulation of Employment and Conditions of Services) Act, 1979, is expected to greatly improve matters for the unorganised urban workers.

With a view to bringing about an improvement in the real earnings of the workers in the unorganised sector, the main instrument is the fixation and revision of Minimum Wages and enforcement of the Minimum Wages Act through the Central and State machineries. The Ministry of Labour is responsible for fixing the minimum wages under the Minimum Wage Act, 1948, in respect of employments for which the Central Government is the Appropriate Government. There are at present 42 employments for which the Central Government is the appropriate government for fixation/revision of minimum wages. Minimum wages in employments in construction and maintenance of roads or building operations, stone breaking or stone crushing, maintenance of buildings, construction and maintenance of runways, and 32 mining employments have been notified during 1986.

The enforcement of the Equal Remuneration Act is to be strengthened by a associating voluntary organisations, and efforts are being made to raise the general level of consciousness on the subject. Voluntary organisations will be encouraged to take up action-oriented programmes in the field of women labour.

As the basic malady afflicting the rural unorganised workers has been the lack of employment opportunities, particularly during the slack seasons, emphasis would continue to be placed on the special target group programmes for employment creation and income generation. This would help in reducing pressures on urban labour markets, and on the urban areas in all other respects also.

(ix) *Bonded Labour, Child Labour and Women Labour*

The Bonded Labour system is mainly a phenomenon among rural unorganised labour. The Programme of Rehabilitation of Bonded Labour forms part of the 20-Point Programme of the Govt. of India. The responsibility of identification, release and rehabilitation of bonded labourers rests with the State Governments who are the implementing authorities under the Bonded Labour System (Abolition) Act, 1976.

The total number of bonded labourers identified and freed as on 31-12-1986 was 2,14,842 out of which 1,74,608 have been rehabilitated leaving thereby 39,234 to be rehabilitated. With a view to supplementing the efforts of the State Governments, a Centrally Sponsored Scheme was launched by the Ministry of Labour in 1978-79, under which the State Governments are provided central financial assistance on matching grant (50 : 50) basis for the rehabilitation of bonded labourers. The scheme envisages

provision of rehabilitation assistance up to a ceiling of Rs. 4000/- (revised to Rs. 6,250/- w.e.f. 1-2-86) per bonded labourer, half of which is given as the central share. So far, a sum of Rs. 2598.91 lakhs has been released to the State Govts. as central share of assistance under the Centrally Sponsored Scheme for rehabilitation of bonded labourers since the inception of the Scheme in 1978-79. On the other hand, the child labour problem though not unimportant in the rural areas, is not too distressing in comparison to the situation confronting child labour in urban areas. The child labour in urban areas faces far severe and hazardous working conditions than its rural counterpart. Regarding women labour, a fall has been observed in the female participation rates in rural areas while it is on the rise in urban areas. To adequately tackle the above two developments, the major task to be undertaken are : (1) to treat women as specific target groups in all rural development programmes; (2) to ensure that, in all asset endowment programmes, women have rights over assets and resources; (3) to properly diversify vocational training facilities for women to suit their varied needs and skills; (4) to encourage appropriate technologies, equipment and practices for reducing their drudgery and increasing their productivity; (5) to provide creche facilities and family planning centres; (6) to establish marketing estates at the State level; (7) to increase women's participation in trade unions and in decision-making; and (8) to improve and enlarge the scope of the existing legislation for women workers.

3. *Action Plan for Fulfilling the Objectives as Laid Down in the 7th Five Year Plan*

(i) *Unrassing Human Resources through Appropriate Manpower Planning*

An important aspect of human resources development relates to the development of manpower needed for the fulfilment of the targets of growth of different sectors of the economy. The objectives of the manpower planning are to ensure the proper linkage of economic planning with manpower and educational planning. For this purpose, the Ministry of Labour keeps a close coordination with the manpower planning unit of the Planning Commission and its attached organisation, the Institute of Applied Manpower Research. The Directorate General of Employment & Training compiles information on the educational profile of the applicants on the live register of Employment Exchanges and makes an attempt to correlate them to the requirement of skills and training to the vacancies notified. Vocationalisation of education is being actively pursued by this arm of the Labour Ministry. However, the manpower planning has to be carried out in a democratic framework only, and therefore is not uncommon to find severe and critical shortage/excess of manpower in a number of areas.

(ii) *Poverty Alleviation Programmes, Self-employment and Wage Employment to the poorer sections of the society.*

In addition to the sectoral investments during the Sixth Plan period which have resulted in an expansion of employment opportunities through the process of growth, there have been in operation important

employment beneficiary-oriented programmes for specific target groups such as the National Rural Employment Programme (NREP), the Integrated Rural Development Programme (IRDP), the Rural Landless Employment Guarantee Programme (RLEGP), the Training Scheme for Rural Youth for Self-Employment (TRYSEM), and the Scheme for Providing Self-employment to Educated Unemployed Youth. Even if most of these programmes have a rural stress, their implications for urban developments should be obvious in that they create/provide opportunities for employment to rural population and thus act as a counter-magnet to the urban job market. Briefly, the special Employment Programmes as also the State Employment Programmes are as detailed below :

- (i) The National Rural Employment Programme (NREP) aims at generating employment opportunities in the rural areas, simultaneously creating durable community assets for strengthening the rural infrastructure; it also seeks to improve the nutritional status and living standard of the rural poor. The programme operates in close conjunction with other developmental works. For the Sixth Five Year Plan, there was a provision of Rs. 980 crores in the Central sector and Rs. 640 crores in the States sector making a total of Rs. 1,620 crores for this programme. The progress of employment generation as a result of the execution of various works under the programme has been presented in Table 8.
- (ii) During the Sixth Plan, it was felt that the hard core rural poverty, particularly that pertaining to the unemployment of the landless labourers during the lean agriculture season, had to be tackled in a more direct manner. Accordingly, a new scheme called the Rural Landless Employment Guarantee Programme (RLEGP) was introduced in 1988. The basic objectives of the programme are : (i) to improve and expand employment opportunities for rural landless with a view to providing guarantee of employment to at least one member of every landless labour-household up to 100 days in a year; and (ii) creation of durable assets for strengthening the rural infrastructure which will lead to rapid growth of the rural economy. Assistance under the programme was provided to the State/U.T. Government on 100 per cent basis. Funds amounting to Rs. 6.00 crores were allocated to them in the last two years of the Sixth Plan. It was originally expected that 360 million mandays of employment would be generated under the programme during the last two years of the Sixth Plan period, i.e., during 1983—85. As against this, 260.15 million mandays of employment were generated during the years.
- (iii) The Integrated Rural Development Programme (IRDP) is the single largest scheme for providing direct assistance to the rural poor and is meant for the poorest among

the poor. Its objectives are to provide productive assets and employment to the poor for enabling them to attain higher incomes and a better standard of living. The IRDP was expected to cover 15 million families to be identified in all the blocks of the country during the Sixth Plan period; on an average, 3000 families in a block were to be provided assistance though this programme. A sum of Rs. 1,500 crores was provided in the plan as outlay for this programme. The banks were called upon to provide another Rs. 3000 crores by way of loans to selected beneficiaries. Further, back-up facilities in infrastructure, community projects and assistance to voluntary agencies were also provided.

- (iv) The Scheme of Training Rural Youth for Self-Employment (TRYSEM) was initiated in 1979 with the principal objective of removing unemployment among the rural Youth. The target was to train about 2 lakh rural youths every year at the rate of 40 youths per block of the country. The TRYSEM is an integrated part of the IRDP and aims at equipping the rural youth with skills to enable them to become self-employed. A rural youth from a family having an income of less than Rs. 3,500 per year was eligible for selection. Preference in selection was given to those who had aptitude for innovation and entrepreneurial activities. Priority was also given to members of SC/ST and women. The accepted mode of training is through institutions under TRYSEM, during the Sixth Plan, according to available information. Around 50 per cent of master trainee have taken up self-employment.
- (v) 9.4 lakhs rural youths received training under the scheme for Providing Self-Employment to Educated Unemployed Youth was introduced in 1983. The scheme provides for the grant of loan up to a maximum of Rs. 25,000 to educated youth residing in areas other than cities with population of 10 lakhs or more and having no other source of finance for settling down in self-employment. The implementation of the scheme was entrusted to the District Industries Centres under the guidelines of the Development Commissioner for Small Scale Industries. An allocation of Rs. 25 crores was made for the programme during 1984-85 in the central budget to cover Government assistance in the shape of an outright capital subsidy to the extent of 25 per cent of the loans taken by the entrepreneurs from the banks.
- (vi) Same State Governments are implementing Special Employment Schemes to provide additional employment opportunities. The Employment Guarantee Scheme (EGS)

operating in Maharashtra since 1972, is intended to provide employment on productive works to the workers desirous of rendering unskilled manual work and thereby reduce the incidence of unemployment, under-employment and poverty in rural areas. The State Governments gave a statutory backing to the guarantee of employment through the Employment Guarantee Act, 1977. The Guarantee of work is restricted to unskilled manual work benefiting the most poor section of the workforce. In 1983-84, 164.5 million mandays of employment were reported to have been generated. There are also schemes by other State Governments for the benefit of the unemployed, whereby training, financial assistance and other incentives are provided.

(iii) *Upgrading of Technology, Modernisation of Equipment, better Utilisation of Assets and Promotion of Efficiency*

The focus of industrial development in the Seventh Plan will be on upgradation of technology, modernisation of equipment, better utilisation of assets and promotion of efficiency. The Plan lays emphasis on adequate growth of sectors like fertilisers, pesticides and essential agricultural production, as also on sizeable increases in the production of wage goods and essentials of mass consumption like sugar, vegetable oils, drugs, textiles and paper and commonly used consumer durables. This would lead to the creation of considerable employment opportunities in large, medium and small-scale industry, both in the public and private sectors of the economy.

As already suggested, there would be substantial employment creation through rural works programmes. In addition, it is expected that, if the traditional skills of rural artisans are upgraded and their competitiveness is improved, the rural industrial sub-sector would provide more and permanent avenues of employment. The handloom industry is the largest single cottage industry in terms of employment. It is estimated to have employed roughly 75 lakh persons in 1984-85 and is likely to provide additional employment of around 25 persons during the Seventh Plan.

Irrigation, Flood control and Command Area Development Programmes are employment-oriented programmes as these help to generate large wage employment opportunities in the rural areas, particularly for the weaker sections like the handless labour.

(iv) *Development of Electronic Industry to Absorb Large Work Force in the small-scale sector*

A major thrust to be given in the area of sundry industries is the development of the electronics industry which would provide employment on a large scale, particularly in the small-scale sector. The electronic industry in India, though small in size by international standards, has great potential for future growth. It offers some of the most appropriate technological choices suited to our condition for solving many of our socio-economic problems

and the objectives of growth and employment. The Planning Commission has acknowledged that electronic industry provides maximum employment (both direct and indirect) per unit of investment. In recognition that electronics can make a very significant contribution towards improvement in productivity, the 7th Plan envisages rapid introduction of electronics in almost all sectors of the economy. Technological development in most of the industrial and services sector will also require much greater application of electronics. A target of Rs. 10,860 crores worth of domestic electronic production is envisaged for 1989-90 as against the level of around Rs. 200 crores at the beginning of 7th plan. Coupled with high labour absorption per unit of investment, it is seen that the electronic industry, which has a very sizeable small-scale industry component, would contribute very significantly to employment generation in the country and even more so in the urban areas where the usage and manufacturing/servicing of electronic goods are concentrated. The Labour Ministry has taken up appropriate craftsmen training programmes to provide the suitably trained manpower required by the industry.

(v) *Urban Employment in Housing, Transport, Communication and Automotive Sectors*

Housing is a highly employment intensive activity. The step-up of investment in housing envisaged during the 7th plan would provide employment on a large scale, especially in urban and semi-urban areas. The Ministry of Labour has taken steps to provide welfare facilities to workers in the housing industry as well as made legislative efforts against exploitation of contract and migrant labour, which, to a large extent, are concentrated in the housing sector in urban areas.

Since transport and communication services form part of the basic infrastructure required for fulfilment of all plan objectives, the investments in transport, communications and automotive sectors have suitably been geared up in the 7th Plan in line with the production and employment targets of other sectors. Being labour-intensive industries, these industries too would generate substantial job opportunities, both direct and indirect.

4. *Problems Encountered Anticipated in Fulfilling the Task*

The main problem that has been encountered as well as anticipated is the lack of concrete data to help formulation of policy and difficulties in effectively implementing various labour laws in our country of sentimental dimensions. The wage backlog of unemployment cannot be solved by providing avenues for wage employment due to heavy capital requirements. Therefore, the stress has to be on development of self-employment potential to take advantage of the opportunities available as a result of planned development. The Ministry of Labour has undertaken steps to provide vocational education in this context. Due to low incomes, the potential of the economy to absorb goods and services,

adequate market does not exist for trained self-employed entrepreneurs who start on a very modest scale. Therefore, trained craftsmen with potential for self-employment are forced to seek wage employment, adding pressure on the industry, and even more so on the industries located in urban areas have an inherent marketing advantage vis-a-vis similar rural based industries only compounds this situation further.

5. Action Programme by the Ministry or the Future

The task of manpower planning and unemployment alleviation is being tackled in close coordination with

the Planning Commission. Though no special plans have been drawn up for urban areas or metro cities, the Ministry has identified 70 centres where industrial and other labour are concentrated as a result of Working Class Family Income and Expenditure Survey of 1981-82. A list of such centres is at Table 9. Not all these centres are necessarily in urban areas, yet it is expected that due to their very nature, almost all of them would become fully urbanised in due course; whether or not steps are taken for their planned urbanisation.

TABLE 1
LABOUR FORCE PROJECTED BY AGE, SEX AND NSS 32 ROUND (USUAL STATUS) PARTICIPATION 1980-85,
1990 AND 2000 (AS ON 1ST MARCH)

Place of Residence rates for the years		(millions)					
Year		5+ 15.59			15+		
		Males	Males Females	Females Total	Total	Males	Female Total
1980	Rural		148.86	66.24	215.10	139.74	60.36
		128.53	57.73	186.26			200.10
	Urban		44.84	10.81	55.65	43.72	10.12
		41.71	9.71	51.42			53.84
Total		170.24	193.70	77.05	270.75	183.46	70.48
			67.44	237.68			253.94
1985	Rural		164.18	73.21	237.39	154.81	67.07
		142.61	64.18	206.79			221.88
	Urban		54.69	13.32	68.01	53.42	12.52
		51.00	12.02	63.62			65.94
Total		1913.61	218.87	86.53	305.40	208.23	79.59
			76.20	269.81			287.82
1990	Rural		180.64	80.69	261.33	171.08	74.42
		157.43	71.18	228.61			245.50
	Urban		66.91	16.54	83.45	65.48	15.63
		62.48	14.99	77.47			81.11
Total		219.19	247.55	97.23	344.73	236.56	90.05
			86.17	306.08			326.61
2000	Rural		208.52	93.45	301.97	198.94	87.22
		181.32	83.01	264.33			286.16
	Urban		101.10	24.91	126.01	97.84	3.73
		92.86	22.66	115.52			121.57
Total		274.18	309.62	118.36	427.98	296.78	110.95
			105.67	379.85			407.73

Source : Seventh Five Year Plan 1985-90 (Vol. I) p. 13

TABLE 2

**USUAL STATUS UNEMPLOYMENT RATES BY RESIDENCE, SEX AND AGE-GROUP DURING, 1983 NSS 38th ROUND
(JANUARY-JUNE, 1983)**

Age-group									(Percentage)	
	Rural Male	Rural Female	Urban Male	Urban Female	Rural	Urban	Male	Female	Al	I
0-4	2.62	1.50	8.93	2.77	2.17	6.79	3.37	1.63	2	68
5-9	5.06	3.37	12.46	17.68	4.54	13.39	6.97	5.43	6	54
10-14	0.63	0.71	1.29	2.60	0.66	1.51	0.81	0.98	0	86
15-19	0.33	0.57	0.94	1.43	0.40	1.03	0.47	0.69	0	53
	0.40	0.99	1.07	0.20	0.52	0.88	0.51	0.85	0	58
	2.32	1.76	5.95	8.14	2.15	6.35	3.20	2.65	3	04

Note : The rates are percentage of unemployed to the corresponding labour force.

Source : Seventh Five Year Plan 1985-90 (Vol. II) p-122.

TABLE 3

ESTIMATES OF LABOUR FORCE (USUAL STATUS) ON THE BASIS OF 32nd ROUND

Age			(in million)	
			Labour Force in March 1985	Labour Force in March 1990
5+			305.40	344.78
15+			287.82	326.61
15-59			269.81	306.08

Source : 7th Plan 1985-90 (Vol. II) p.113.

TABLE 4

ESTIMATES OF UNEMPLOYMENT (USUAL STATUS) IN MARCH 1985 ON THE BASIS OF 32nd ROUND

Category	(in million)		
	Age-group		
	(5+0)	(15+)	(15-59)
Rural	7.80	7.33	7.23
Rural Males	3.74	3.56	3.52
Rural Females	4.06	3.77	3.71
Urban	6.09	5.92	5.87
Urban Males	3.65	3.56	3.52
Urban Females	2.44	2.36	2.35
Total	13.89	13.25	13.10

Source : Ibid.

TABLE 5
ESTIMATES OF UNEMPLOYMENT (USUAL STATUS) IN MARCH 1985 ON THE BASIS OF 38th ROUND

(in million)

Category	Age-group		
	(5+0)	(15+)	(15—59)
Rural	4.97	4.67	4.59
Rural Males	3.76	3.54	3.49
Rural Females	1.21	1.13	1.10
Urban	4.23	4.10	4.08
Urban Males	3.25	3.14	3.12
Urban Females	0.98	0.96	0.96
Total	9.20	8.77	8.67

Source : Ibid.

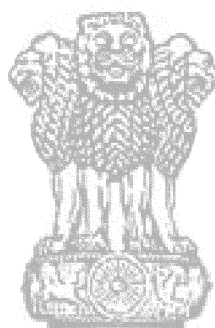


TABLE 6

PROJECTED GROWTH OF EMPLOYMENT 1984-85—1989-90

Sl. No.	Sector	Employment in million standard person year		Increase	Annual Growth of employment (per cent)
		1984-85	1989-90		
1.	Agriculture				
(a)	Crop Sector	96.108	114.092	17.984	3.49
(b)	Non-crop sector	37.358	48.372	11.014	5.30
2.	Mining and quarrying	1.153	1.494	0.341	5.32
3.	Manufacturing	26.790	33.466	6.676	4.55
4.	Construction	10.427	12.624	2.197	3.90
5.	Electricity	1.031	1.498	0.467	7.76
6.	Railways	1.544	1.688	0.144	1.80
7.	Other Transport	9.440	11.810	2.370	4.58
8.	Communication	0.951	1.224	0.273	5.18
9.	Other Services	39.261	49.165	9.904	4.60

Source : Seventh Five Year Plan 1985—90 (Vol. II) p-115.

TABLE 7

DISTRIBUTION OF EMPLOYEES ACCORDING TO BROAD OCCUPATION

NCO code division	Occupational Division	No. of employees (in lakhs)	
		Public Sector (1978)	Private Sector (1979)
0 & 1	Professional, technical	25.96 (27.6)	7.38 (14.7)
2.	Administrative, executive and managerial workers	2.18 (2.3)	0.91 (1.9)
3.	Clerical and related workers	27.34 (29.1)	6.38 (1.8)
4.	Sales workers	0.24 (0.2)	0.50 (1.0)
5.	Service workers	11.54 (12.3)	2.41 (4.8)
6.	Farmers, fishermen, hunters, loggers and related workers	1.78 (1.9)	6.79 (13.5)
7, 8 & 9.	Production and related workers, transport equipment operators and labourers	25.02 (26.6)	25.84 (51.5)
	Total	94.06 (100.0)	50.21 (100.0)

Note : Figures in brackets are percentages of total.

Source : Information supplied by DGE&T.

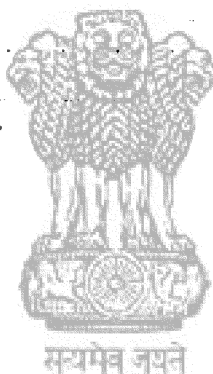


TABLE 8

GENERATION OF EMPLOYMENT
(MILLION MANDAYS)

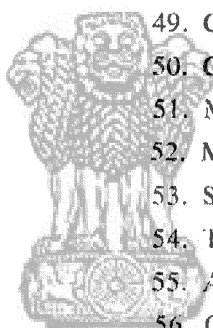
Year	Target	Achievements
1980-81		413.58
1981-82	335.73	354.57
1982-83	353.22	302.02
1983-84	322.23	302.02
1984-85	309.13	349.90

Source : Seventh Five Year Plan 1985-90 (Vol. II), p. 114.

TABLE 9

**LIST OF CENTRES WITH SIGNIFICANT CON-
CENTRATION OF INDUSTRIAL AND OTHER
LABOUR**

Sl. No. and Name of the Centre	Sl. No. and Name of the Centre
1. Doon-Dooma—Tinsukia	36. Indore.
2. Gauhati.	37. Jabalpur
3. Labac-Silchar	38. Bombay including Thana
4. Mariani—Jorhat	39. Nagpur
5. Rangapara-Tejpur	40. Nasik
6. Gudur	41. Poona.
7. Guntur	42. Sholapur
8. Hyderabad	43. Barbil
9. Vishakhapatnam.	44. Rourkela
10. Warrangal	45. Amritsar
11. Jamshedpur	46. Ludhiana
12. Jharia.	47. Ajmer.
13. Koderma.	48. Jaipur
14. Monghyr—Jamalpur	49. Coimbatore.
15. Noamundi	50. Coonoor.
16. Ranchi—Hatia	51. Madras
17. Ahmedabad.	52. Madurai
18. Baroda	53. Salem
19. Bhavnagar	54. Trichirapally
20. Rajkot	55. Agra
21. Surat	56. Ghaziabad
22. Faridabad	57. Kanpur
23. Yamunanagar	58. Saharanpur
24. Srinagar.	59. Varanasi
25. Bangalore	60. Asansol.
26. Belgam	61. Calcutta.
27. Hubli—Dharwar	62. Darjeeling
28. Mercara	63. Durgapur.
29. Alwaye	64. Haldia
30. Mundakayam	65. Howrah
31. Quilon.	66. Jalpaiguri
32. Trivandrum	67. Raniganj.
33. Balaghat	68. Chandigarh
34. Bhilai	69. Delhi
35. Bhopal	70. Pondicherry



Ministry of Petroleum & Natural Gas

Submission forwarded under communication No. J-13014/2/86-Gen. of 8 May 1986.

Items of possible interest to the National Commission on Urbanisation relating to the activities of the Ministry of Petroleum & Natural Gas

A. New projects and installations

- (a) Dispersal, provision of green belt
- (b) Maximisation of local employment
- (c) Environmental protection
- (d) Aesthetic design
- (e) Minimising social tensions due to large flow of funds during construction phase.

B. Existing refineries and installations in densely populated areas

- (a) Creation of satellite installation with parallel product piping to reduce storage of large volumes of dangerous petroleum products and reduce road transport in and around refineries.
- (b) Review of compliance of environmental control standards and development of special norms for cities susceptible to inversion.
- (c) Low-cost methods to improve aesthetic appearance of refineries and installations in the urban areas.
- (d) Reduction of noise and light pollution from refineries.

C. Consumption of petroleum products in densely populated areas

- (a) Restriction in the use of I.C. engine based vehicles in inner-cities, use of mass transport and/or electric vehicles,

- (b) Development of efficient stoves and its mandatory use.

- (c) Emission control from I.C. engines.

- (d) Restriction in use of heavy distillates in 2-stroke engines.

D. Design of new cities

Advance planning to cater to requirements of the petroleum sector with regard to new installation requirement, product use, etc.

Design of LPG networks etc.

Copy of note prepared by Oil Coordination Committee submitted under communication No. J-13014/2/86-Gen. of 26 Sept. 1986.

A. New Projects and Installations

In the case of new projects and installations special attention needs to be placed on two specific areas :—

- (a) Ensuring minimum damage to the physical environment.
- (b) Reducing the distortions in the local social and economic fabric so that the new economic activity does not meet an alien environment.

With the two objectives in view it would be desirable to create a special cell under the project authority right from the inception of the project. This cell should liaise directly with the appropriate bodies of the local government, for example, town planning, environmental protection, civil supplies, etc., so that an orderly growth of the area and protection of environment is ensured.

Specific actions that need to be taken up by the designed cell in conjunction with the State bodies would include :—

Ministry of Steel & Mines, Department of Mines

ENVIRONMENTAL GEOLOGICAL PERCEPTIVES IN URBAN DEVELOPMENT

Scope of Work

With the rapid increase of population there is a great pressure on available resources of land for different purposes, including the requirements for urban dwellings. Geology or earth-science is fundamental to practically any action of man concerning land use involving soils, rocks, minerals, ground-water etc. The geologist can aid the planner in respect of the following basic criteria that are essential in planning analysis of urbanisation :

1. Distribution pattern and physical properties of soil and rock units.
2. Seismic stability—presence of active or possible active faults and epicentres of historical earthquakes.
3. Thickness of soil or depth to bedrock and susceptibility, of ground subsidence etc.
4. Slope stability, including potential areas of landslides soil creep and avalanche.
5. Areas prone to soil erosion and suggesting possible remedial measures.
6. Potential areas for building materials or any other mineral deposits.
7. Depth of ground water and location-specific availability of subsurface water.
8. Location of flood plains/old rivers course etc. which are normally flood prone areas.
9. Pattern of surface drainage and areas of possible water logging.
10. Areas of possible pollution due to domestic and industrial waste disposal.
11. Suggesting suitable areas for future expansion of the city/town or for development of satellite towns to relieve pressure on the metropolitan area.
12. Suggesting suitable location of industrial growth with respect to urbanisation.
13. Impact of nearby mining activities, if any, on the urban environment.

14. Suggesting suitable places for development of tourist resorts/recreational spots.

The Geological Survey of India has felt the importance of the role of these basic criteria in urban development and has been continuously endeavouring to depict them through a series of geoenvironmental maps and reports for a period of more than a decade.

Case History

It will not be out of the way to cite a few case histories amongst many :

Bangalore Metropolitan Area, Karnataka : The Bangalore Urban Geology Project was taken up to help in promoting scientific land use and land development in the context of the city's growth trend. Environmental geological studies for the Bangalore Metropolitan Area have helped in the formulation of broad guidelines for urban development. Some important recommendations are as follows :

1. Urbanisation should be restricted to the elevated flat or gently undulating terrain occupied by residual soils.
2. High-rise multi-storied building should be founded on the lower layer of the weathered zone at depths of 3 to 10 m. or on fresh bedrock.
3. The colluvial/alluvial areas should be set apart for development of green belts, and farming for fruits and vegetables.
4. The deeply weathered zone indicated by geophysical surveys should be explored for ground water to augment the city water-supply.
5. Indiscriminate urbanisation, downstream as Sankey's tank and close to old quarry faces should be avoided.
6. Effluents from chemical and metallurgical industries in the NW corner of BMA may ultimately pollute the Tippegondanahalli reservoir supplying 5% of the city water supply. It would be helpful to monitor the effluents and adopt necessary remedial measures.

Jaipur Urban Region, Rajasthan : Jaipur, the capital of Rajasthan, and one of the premier tourist attraction of India is faced with a number of environmental problems stemming from rapid urbanisation and expansion, not conforming to the terrain conditions. Environmental geoscientific studies were taken up by G.S.I. in order to provide the State Government with guiding information and thematic maps for environmental management. The following steps were recommended for implementation :

1. The remaining dune areas of the Jhanala-Dungri-Kalangarh stretch, up to Jalmahal and Narhi-Ka-Naka-Sas-trinagar areas should be established with plantation of grass and shrubs. Further construction activities may be stopped in these areas.
2. Large scale afforestation should be undertaken in the hilly areas to reduce heat radiation and run-off and also for scenic values.
3. Soil conservation measures to gully reduce erosion zones may be undertaken with creation of green belts.
4. Quarrying activities should be totally banned on the hills facing the city. Suitable alternate sites in the Harmada hills, just N-W of the urban region may be allotted for quarrying.
5. No further construction should be allowed in the water logged area around Jalmahal to avoid aggravation of drainage congestion.
6. Pollution control and sewage treatment should be fully implemented.
7. Allocations of land for further urbanisation, agriculture, industrial development etc. may be made on the basis of the environmental appraisal map. The focal rural centres may also be considered for future developments of the region.

There has been effective interaction with the State Government agencies, who have already started considering the various suggestions on the basis of the map.

Baroda Urban Complex, Gujarat : Baroda, a major urban-cum-industrial complex with heavy industries (Oil Refinery, Petrochemicals, Fertilizers etc.), is undergoing continuous expansion with increase of population pressure, calling for development conformable to terrain characteristics. Hence environmental geoscientific appraisal of the Baroda urban-cum-industrial complex was carried out and the following recommendations were made on the basis of the studies :

1. It is suggested that immediate measures be introduced for installing effluent treatment

plants in all the concerned industries. Sanitary landfill techniques should be introduced for both domestic and industrial waste disposal. The area, east of the aerodrome, between Darijipura and Sayajipura is tentatively suggested for sanitary landfill.

2. Further expansion of the city may be restricted to the eastern sides of the present complex lying between the Ajwa and Dabhoi roads, and not towards the Mahi and Meni.
3. All the rivering bank zones may be afforested and suitable measures adopted to check erosion.
4. Continuous cultivation by sewage irrigation may change the inherent soil characters. A soil study is required to monitor the changes. The area under such irrigation, south-east of Wadi, may be monitored.
5. The red soil areas should be used for cultivation in the western tracts. The Gujarat Government agencies have shown considerable interest in the studies which are in progress. It is hoped that these studies will be of help in environmental management of the Baroda Urban region.

Similar studies have been carried out by the Geological Survey of India in many other cities/towns, such as Delhi Metropolitan area; twin cities of Hyderabad-seccunderabad and Visakhapatnam city of Andhra Pradesh; Calcutta Metropolitan area of West Bengal; Ahmedabad and Surat Urban Complex of Gujarat; Ajmer-Pushkar, Kota, Udaipur and Jodhpur cities of Rajasthan; Itanagar, capital township of Arunachal Pradesh and Kohima town of Nagaland; Raniganj-Jharia mining area, etc.

In the course of last 135 years the Geological Survey of India has conducted many investigations which are directly or indirectly related to the environmental. In the yester years, such studies were conducted mainly for locating mineral resources and for understanding the causes and assessing the effects of natural hazards like earthquakes, landslides etc. The growing awareness about the endangered environment, both due natural as well as anthropogenic causes, has set in motion serious activities all over the world to ensure environmental conservation, leading to the emergence of environmental science which draws heavily from all natural sciences. The earth science has thus become an important member of the environmental disciplines, and hence the Geological Survey of India can play a useful role in urban development activities in varied terrain conditions.

Ministry of Science and Technology

Noted forward under communication No. 5-13/86-Ed. of 17 July, 1986 from Shri S. C. Seth, Head, Technology Forecasting and Future Studies Unit.

Migration of population from rural to urban areas is assuming explosive proportions. As a result the towns and cities are growing rapidly and there is a pressure in the towns/cities and surrounding areas. For a planned growth the need of maps and survey data cannot be over-emphasised.

Every now and then, urban planners have voiced their concern over lack of suitable large-scale base maps of urban areas and their surroundings required by them for planning.

In order to overcome the time constraints and with a view to evolve a working solution, a Task Force on preparation of Photo-Base Maps for the use of the Town Planners has been formed. The Task Force comprises of the representatives from Survey of India, Delhi Development Authority, Town and Country Planning Organisation (TCPO), Indian Institute of Remote Sensing (HRC) and includes town planners of some States.

A pilot study was carried out for the town of Gurgaon in preparing base map from rectified aerial photographs (A.P.) (Control for rectification taken from the existing survey of India topo-sheets) with over lays on transparent medium for different items/activities. Further studies in this direction are in progress and the results so far have been encouraging.

Further, it is a well known fact that lack of perceivable information on a real time basis makes it extremely difficult, if not impossible, to take decisions based on all factors and prevailing constraints. In order to overcome this difficulty, setting up of Land Information System (LIS) at the earliest would be the appropriate step. LIS represents a system for handling special data related to multivariate and multilevel data and attributes concerning topography and the cultural imprints on it, revenue collection, land and property ownership, environmental parameters, utilities and services, socio-economic information, infrastructure information and any other information which will help planners and administrators to carry out their jobs better. LIS would accept large volumes of such data, derived from a variety of sources, including

remote sensors, and efficiently store, retrieve, manipulate, analyse and display this data according to the user-desired specifications and in user-desired formats in real time. Therefore, by making use of LIS some of the major problems which confront urban planners like non-availability of suitable data in a perceivable form, disappear and the planners can concentrate on the task of planning. The dimensions and the complexities of the problem are seen at one glance in proper perspective and solutions will become just a process of logic and not a matter of speculation regarding an undefined number of imponderables. LIS will this prove to be a very useful basis for scientific planning.

Use of aerial photographs coupled with Survey of India topo sheets and building up of a data base in the land information system (LIS) would go along way to tackle the problem of urbanisation.

VIEWS OF NATMO ON VARIOUS ASPECTS OF URBANISATION

The National Atlas & Thematic Mapping Organisation (NATMO) has mainly studied the problems of urban landuse of Metropolitan cities like Calcutta and other big cities like Ahmedabad, Pune, Bangalore and Hyderabad. The study is still continuing. The resultant maps of the studies already published are (1) Calcutta city, scale 1 : 25,000 and (2) Calcutta Metropolitan District, scale 1 : 100,00. The maps show the graded density of residential areas, slums, industrial areas, administrative areas, educational and cultural areas, commercial centres, transport and storage area, parks and open spaces, hospitals, burial and cremation grounds, all in distinctive colours and in colours screens. All the above features have been identified and demarcated under the background of administrative boundaries, roads, railways their types, water bodies and other different landform features.

Under another urban study, smaller district towns are being mapped were apart from the urban landuse features, the growth and potential of the towns will also be depicted.

We have also produced a special 1 : GM map on urbanisation. This colourful map shows the growth pattern of the different towns and cities of India during 1961-71.

All the above maps envisage providing an essential tools for planning alaround development of the urban units.

VIEWS OF INDIA METEOROLOGICAL DEPARTMENT OF VARIOUS ASPECTS OF URBANISATION

Effect of Urbanisation on Micro-climate

The effect of urbanisation on micro climate is well known specially in tropical areas. It was felt even at the meeting of experts on urban building climatology held under the auspices of the World Meteorological Organisation at Geneva during 6—10 December 1982, that more indigenous research is needed in tropical areas on urban and building climatology. Some of the meteorological parameters which are affected by urbanisation are as follows :

1. *Precipitation* : It has been suggested now that the presence of the city itself could cause increased precipitation. Increased precipitation will be more prominent in summer along the downwind. There are three possible causes for increased precipitation.

- (a) Additional condensation nuclie due to increase in concentration of particulate matter and other pollutants.
- (b) Increase in turbulence resulting from increased surface roughness.
- (c) Increase in thermal convecting resulting from higher temperature due to heat island effect. It has been observed that even a one degree centigrade heat island under favourable condition would be enough to trigger the precipitation enhancement process.

2. *Urban Heat Island* : This is defined as the excessive temperature over Urban areas in comparison to rural areas in the neighbouring environment. This can be attributed due to the following reasons :

- (a) Increase in downward flux of long-wave radiation.
- (b) Increase in anthropogenic heat sources.
- (c) Decrease in net long-wave radiation.
- (d) Decrease in net short-wave radiation absorption due to decrease of albedo.
- (e) Greater heat time storage due to thermal properties of urban material.

- (f) Decrease in evapotranspiration due to removal of vegetation.
- (g) Decrease in loss of sensible heat due to reduction of wind speed.

3. *Radiation* :

- (a) *Short-wave radiation* : The short-wave radiation, i.e., diffused and direct is considerable reduced in its passage through a polluted atmosphere. The reduction of radiation depends upon the size, type and amount of polluted atmosphere.

The reflection of short-wave radiation depends upon the albedo of the surface. In general, the albedo of urban areas is slightly lower than in the surrounding rural areas.

- (b) *Long-wave radiation* : The outgoing long-wave radiation is much more in city in comparison to rural areas because of the heat island effect. The returned long-wave radiation from the atmosphere is also greater in urban areas because of the overlying pollution there. We can consider the effect of buildings also on radiation. The short-wave radiation will decrease due to shadows while there will be a local increase in solar receipt by reflection from sunlit walls and reduction of net long-wave radiation from surfaces near to the buildings, due to reduction in outgoing long-wave radiation (caused by a reduced sky-view factor) and an increase in incoming long-wave radiation from the usually warm buildings.

4. *Wind Speed* : Surface wind speed will decrease due to increased surface friction in urbanised locations.

5. *Lapse Rate* : The temperature lapse rate gets accentuated in urban locations.

Work in India Meteorological Department

Heat-island intensities and humidity islands have been studied at five stations, viz, Pune, Bombay, Calcutta, Delhi and Visakhapatnam. At all the five stations, the existence of warm pockets has been noticed and their intensities at Delhi, Bombay, Pune, Calcutta and Visakhapatnam have been studied. The intensity, size, shape and position of warm pockets are found to depend upon wind speed and direction. Results of these studies have been published.

Ministry of Surface & Transport

Submitted under communication D.O. No. 1 RW/PL-30(13)86 of 14 Nov. 1986 from Shri D. P. Gupta, Chief Engineer (PL).

18.1 VIEWS OF THE DEPARTMENT OF SURFACE TRANSPORT (ROADS WING) OF VARIOUS ASPECTS OF URBANISATION

The Roads Wing are essentially concerned with the development of National Highways which are a Union subject and their development and maintenance are the responsibility of the Government of India under the National Highways Act, 1956. This responsibility is discharged through State Government on an agency basis, for which provision exists in Section 5 of the Act.

Portions of existing National Highways lying within towns having a population of 20,000 or more are termed 'Urban Road Links' and this terminology is also extended to roads in towns having a population of 20,000 or more connecting the terminal points of two or more National Highways at the boundary of the town or city. Road links that satisfy the following criteria are treated as permanent routes of National Highways :

1. The road land should be adequate for a through traffic road in the centre and parallel service roads for local traffic on the sides. At the very minimum, road land width should not be less than 30.5 m (100 feet) 15.25 m (50 feet) for N.H. proper and 7.63 m (25 feet) on either side for service roads in built-up area.
2. The road land should be free from encroachments or any leased structures. If there are any encroachments, the State Government should undertake to remove them and in case of leased structures not to renew the lease.

The Central Government accepts the financial liability for the development and maintenance of such permanent routes. Road links which are not suitable for through traffic as per the above criteria will be eligible for Central Government assistance for maintenance only and that too only for such time till a new bypass is constructed. The Government of India enters into an agreement with the State Government for the development and maintenance of urban links, after signing of which the funds are released. Where bypasses are

required on NHs, it is essential to have parallel service roads for which the cost should be borne basically by the concerned state/local authority so that the road serves the through traffic effectively.

The Ministry is thus primarily concerned with the permanent urban road links and the steps to be taken to combat the threats to their efficient performance. These threats relate to the damages caused to the pavement surfaces by indiscriminate overloading of commercial vehicles that use them, obstructions to the smooth ribbon development on private lands abutting these road links.

The Government has fixed the maximum single axle load of vehicles as 10.2 tonnes and tandem axle load as 18 tonnes. Overloading of vehicles result in premature failure of the road structure which require large sums for rehabilitation. So in the perspective plan of urbanisation, provisions should be included for effective enforcement of the above requirement by way of setting up weighing stations with sufficient stackyard space.

Unauthorised occupation of road lands has become a menace especially in urban settlements. These not only obstruct free flow of traffic but cause many avoidable accidents. The existing legal powers should be exercised to evict these encroachments unmindful of the pressures exerted by vested interests. Fencing may be done to prevent future encroachments, wherever feasible.

Roadside mechanics in many towns are not only a nuisance for the traffic but they damage the bituminous pavement surface by spillage of oil etc. A good idea would be to create a 'mechanical village' for each town at suitable locations where all the mechanics could set up their business.

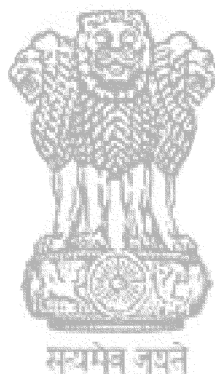
Unregulated ribbon development constitutes a big threat to the road system because of the pressures it creates on road lands. Each industrial, commercial or residential unit which comes along the road side requires a separate access to the Highway which can be obtained only by encroaching on the Government owned road lands. The size of plots is so small and their number so large that the entire road is encroached upon for access purposes, creating traffic bottlenecks and accident hazards.

Ribbon development has to be tackled at two levels. Prevention can be achieved by imposing rigorous land use control and by regulating future growth of urban centres in accordance with well conceived Master Plans. As far as the existing ribbon development is concerned every effort should be made to remove the encroachments and reduce the access roads to the minimum. This can be achieved by building parallel service roads

after acquiring necessary lands and demolishing some structures, if necessary.

Roadside amenities have to be provided which includes property planned hygienic rest and refreshment areas, service stations, telephone booths etc.

Landscaping and beautification of road lands with plantation of trees will make motoring a pleasure and reduce the strain of travel.



Ministry of Urban Development

Comments of CPHEEO

1. The CPHEEO does not have at present total information categorywise of the towns in the country. In the recent Mid-decade Review carried out it has been assessed that about 72.9% of the urban population had access to potable drinking water at the end of March, 1985. Insofar as norms for the different categories of towns the Manual on Water Supply and Treatment prescribes the per capita supply as follows :

- (a) For communities with population up to 10,000 70—100 litres
- (b) For communities with population from 10,000 to 50,000 100—125 litres
- (c) For communities with population above 50,000 125—200 litres

However, it may be pointed out that in certain special circumstances the per capita supply could be even higher than what has been suggested in the Manual. Insofar as the technology is concerned, ground water with practically no treatment except for disinfection can be used depending on the ground water sources available and their quality. If surface water or stored water is used for drinking purposes the same will have to be processed in a conventional treatment plant either through slow sand filters or rapid sand filters. Depending on various factors the cost per capita for conventional treatment may be much higher than that for the ground water.

2. The projected requirement for the years 2001 and 2025 can be worked out on the average requirement of about 140-150 litres per capita per day for domestic use. Insofar as commercial institutional and industrial needs are concerned it would vary for each individual community. In the case of a highly industrialised community the requirement may be even more than the total for the community as a whole on the basis of per capita supply indicated above. Unless detailed information on the type of size of industry, commercial/institutional needs are available, it will be difficult to segregate the requirement for each individual use. However, on an average we could assume additional requirement of about 30 to 40% over and above needs considered for domestic use.

3. Requirement of infrastructure to meet the demands of the projected water supply programme cannot be assessed precisely at this stage. However, based on the need for additional coverage in terms of population it could be assured that for water supply an average rate of about Rs. 350-450 per capita may be required at the present rates. The financial requirements as such can be worked out based on the population that will have to be provided with water supply to meet the total needs by 2001 and 2025.

We had earlier sent a note to the Secretary, National Commission on Urbanisation under our letter No. Z-16025/6/86-CPHEEO dated 27-5-86, a copy of which is placed below.

Water Supply, Sewage and Sanitation in the context of Urbanisation

In the last 50 years, both the Central as well as State Governments have made sustained efforts to provide safe drinking water and sanitation facilities to millions of people in the country. In the last 33 years starting from 1951 through the five year plans and intervening annual plans, the percentage of water supply and sanitation sector outlay to the total development plan outlay has increased from a modest 1.46 per cent in the first year plan (1951-56) to 3.84 per cent in the sixth development plan (1980-85).

2. The United Nations, in 1980, declared 1981-90 as the International Drinking Water Supply and Sanitation Decade, India launched the Decade Programme as on 1st April 1981 with the following target :

- (i.) Urban Water Supply . 100% of the population to be covered by March 1991.
- (ii.) Rural Water Supply . 100% of the population to be Covered by March 1991.
- (iii.) Urban Sewerage and Sanitation . 100% of the population to be covered in respect of class I towns and 50% of population in Class II and other towns. Overall coverage should be 80% of the urban population in each State.
- (iv.) Rural Sanitation . 25% of the population to be covered with sanitary toilets.

3. At the beginning of the Decade (as on 1-4-81), about 72.3% of urban population had been provided with protected drinking water supply facilities in India. In the field of sewerage and sanitation the population percentage coverage in urban areas was 25.1%.

4. Recently a mid-decade Review Conference was conducted. It was seen during the first five year of the decade that the urban population coverage has increased to 72.9 per cent and sanitation coverage to 28.4 per cent. Looking to the funds made available during the fifth five year plan the Conference recommended pruning of the target to :

- | | | |
|-----------------------------------|-------|---------------------|
| (a) Urban Water Supply | . 90% | population coverage |
| (b) Rural Water Supply* | . 85% | Do |
| (c) Urban Sanitation and Sewerage | . 50% | Do |
| (d) Rural Sanitation* | . 50% | Do |

5. The conference has suggested the reduced targets; but to achieve the same we have a long way to go. This has become more problematic due to financial constraints as well as over increasing population in the urban areas. In fact, during the first four year of the decades programmes, the water supply programme was just able to cope up with the population rise. However, in the case of urban sanitation it was slightly higher. Even now, if funds are not provided as per revised demand, there may be further reduction in the revised targets.

6. In view of the financial constraint and the target of providing potable drinking water hygienic disposal of sewage/refuse in the urban areas of our country we may have to go in for revised norms. The modification suggested will be to meet the present demand of the people satisfactorily and looking to the overall directive and suggestions made in the technical manuals published by the Ministry from time to time.

7. In Manual on Water Supply and Treatment it has been suggested that the design period may be taken as 30 years. The population rise in the Indian towns is very rapid. If we consider the same rise in population for 30 years, it will become more than 2.3 times and in some cases it will be 4 to 5 times. This population projection will require more investment at the present stage, which may not be readily available. Hence it will be better if the design period is reduced to 15 years and this may be termed as the Phase I of the project. The Phase II of the project may be taken up based on the rise in population as well as the economic situation. The present per capita costs of a water supply project is about Rs. 250/- to Rs. 400/- and that of sewerage projects Rs. 500/- to Rs. 800/-. With the reduction in the design population there will be definite saving in the immediate capital cost.

8. Water Supply to an urban area has various uses, namely domestic, commercial, institutional, industrial and losses/wastage. The Manual on Water Supply and Treatment published by the then Ministry of

Works and Housing suggested the following per capita supply :

	Rates per Capita/day
(a) For communities with population up to 10,000	70 to 100 litres
(b) For communities with population 10,000 to 50,000	100 to 125 litres
(c) For communities with population above 50,000	125 to 200 litres

It has been observed that if a household service connection is available the per capita water requirement to meet all the domestic use, including drinking, is not more than 125 litres. Moreover, since we are likely to go in for low-cost, two-pit pour flush latrines in the urban areas in a big way, the water demand in the urban areas may be reduced appreciably. Hence at present the per capita water demand in the urban areas may be restricted to 100 to 125 litres, especially where low cost sanitation is adopted. This will also help in reducing the capital cost of the project.

9. In a town water supply system, it will be better to go in for zonal systems, especially where a ground-water source is available. This will help in having a minimum water supply by interconnecting the zones in case the system fails in one zone, development of each zone separately as the population in the zone rises, and providing smaller units, which may be cheaper.

10. In the water treatment plants, a lot of moving/measuring devices are used. Quite a good number of them either do not function or are giving wrong readings. Unfortunately, due to high operation/maintenance cost, these equipments/measuring devices are not repaired in time and thus the treatment plants malfunction. With some changes in the design of the treatment plants many equipments/measuring devices are avoidable. Hence the design of water treatment plants should go in for less of these avoidable equipments/instruments.

11. Systems that do not depend on electric motors are preferred because operator error or motor failure can nullify the designer's intention. Moreover, the operation/maintenance cost also increases with the use of more pumps. Our efforts should be to use the minimum number of pumps and avoid all intermediate pumps as far as possible.

12. The cost of providing sewerage systems in all the towns of our country will be enormous. Hence it has become necessary to search for alternative methods as the importance of safer disposal of human waste cannot be ignored. Cheaper methods available and applicable at present are low-cost, twin-pit, pour-flush, water-seal latrines, small-bore sewer, shallow sewer etc. Most of those systems require small quantities of water, thereby reducing the investment cost of the water supply system.

13. Pour-flush, water-seal latrines, with two leaching pits, have been found to be a technically as well as financially feasible proposition at least as an intermediate solution. This is so designed that the excreta

of one person may be flushed by pouring just 2 litres of water. On such latrine can be constructed for each household. There are different types of designs available, depending upon the number of users.

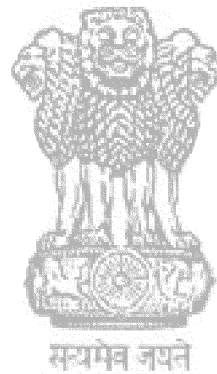
14. Pour-flush toilets may not be always feasible as it requires some minimum space and sullage disposal may create some problem. Moreover, in certain layouts, the small plots adjoin others on three sides. Small-bore sewerage, with several households connected to each solid interceptor tank is possible. But this system is also not very cheap and sometimes desludging may present a problem.

15. Shallow sewers accept all household waste water, excreta, toilet flush water and sullage. They are of small diameter and laid at flat gradient. A 100 mm pipe at 1 in 167 is reported to be capable of serving as many as 100 households. It is essential to have a high rate of connection for proper working and cleaning of the sewage. Once the small sewer is taken out of the it is either connected to the main sewer or discharged into a waste stabilisation treatment unit or any such low-cost process.

16. The flushing tank used in our toilets at present are of higher capacity ranging from 12.5 to 15 litres. The processes described above do not require so much of water for each flushing. In fact flushing tanks having capacity between 2 to 5 litres will be enough to flush the excreta deposited in the pan. A feasibility study on the use of low-volume, squatting type cistern-flush toilets has been taken up with STDA assistance. No report has been obtained so far. However, it is felt that if the scheme is successfully implemented considerable savings of water for flushing and toilets shall materialise.

17. Installation of water supply and sanitation systems require substantial land area. Most often it has been seen that the town Master Plan does not provide for them. This creates problems and the installations cannot be located proper, technically suitable places, thereby increasing the cost of installation. Hence the land for the location of treatment plants, water supply and sewage should be indicated in the Master Plan.

Submitted under communication No. P-27013/8/87-Dist. of 27 May 1987.



The New Exploration Strategy

The exploratory effort during the 7th Plan will be almost three times that in the 6th Plan. The exploratory motorage of 28.21 lakh during the 7th Plan marks a step-up of 192 per cent over the achievement of 9.6 lakh meters of exploratory drilling in the 6th Plan.

2. In the new strategy, there is a shift towards intensive exploratory drilling. This implies more drilling in basins with proven reserves and accent on upgradation of proven reserves into recoverable reserves. Out of 28 lakh motors of exploratory drilling during the 7th Plan, 24 lakh motors would be done by ONGC and 4 lakh motors by OIL. The bulk of this exploratory drilling would be in category I basins of Assam, Gujarat and Bombay Offshore. These are the basins where a large quantity of proven reserves can be upgraded into recoverable reserves. This will help in sustaining/augmenting production. While the Working Group on Petroleum envisaged only 45% of total exploratory drilling in category I basins, under the new exploration strategy, the percentage has been increased to 57%. Compared to the 6th Plan, the exploratory drilling in these basins would shoot up from 5.6 lakh meters to 14 lakh meters.

3. The new strategy also envisages stopping up the tempo of exploration in basins where commercial production has not been established but which are considered prospective. These are category II and III basins. In these, the 7th Plan envisages 42% of the total exploratory drilling as compared to 34% in the 6th Plan.

4. A three-pronged approach is envisaged for exploration during the 7th Plan.

- (i) Intensification of exploratory activity by national oil companies. This would imply intensified surveys and drilling in basins where commercial production has already

been established. Extending and stepping up tempo of exploration in basins where commercial production has not been established but which are considered prospective. Selecting relatively more suitable basins which have so far been poorly explored for acquisition of additional data to make the basins amenable to analysis for prospectivity.

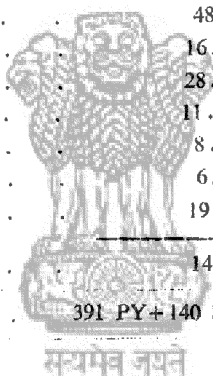
- (ii) Indo-Soviet cooperation for integrated exploration in selected areas of Cauvery and Cambay Basins. Under this agreement, a total of 7000 line kms. of survey and over 2 lakh of drilling with 75f exploratory wells is envisaged. According to a preliminary estimates, the project cost will be Roubles 50 million. 70 per cent project cost is expected to be covered under long-term Soviet credit.

- (iii) 27 offshore blocks have been offered for exploration by foreign oil companies. Recently, three conferences were arranged by the Government of India in Delhi, London and Houston to explain the terms of the offer and the geology of the Block Offshore. 71 oil companies attended the conference and 16 companies have also purchased the Basin data. The last data for the receipt of bids from the foreign oil companies is December 1, 1986.

5. The Basin-wise exploratory drilling programme during the 7th Plan Period is tabulated below.

The basinwise exploration Programme for Onshore and Offshore in reference to Rs. 8752.67 Plan outlays is as follows:

Particulars	Surveys (PY)	Exploratory Drilling		
		Rig years	Meterage (000 M)	Wells (Nos.)
Onshore :				
1. Cambay	59	71.00	479.77	182
2. Kutch & Saurashtra	14	3.00	17.92	5
3. Upper Assam	81	64.00	361.58	89
4. Assam Arakan Fold Belt (Nagahills and Cachar)	29	33.0	185.49	56
5. Tripura	20	19.0	77.61	18
6. Bengal	33	16.5	68.6	12
7. Rajasthan	18	11.6	59.46	24
8. Krishna-Godavari	23	20.0	120.12	32
9. Cauvery	35	20.0	121.88	31
10. Himalayan Foothills and Ganga Valley	69	14.0	49.00	6
11. Others	10	3.0	10.68	3
Total Onshore	391	275.10	1552.11	458
B. Offshore :				
	(SLK) (000)			
1. Bombay	48.17	28.53	264.1	100
2. Kutch and Saurashtra	16.882	8.75	90.47	72
3. Kerala Konkan	28.638	2.65	22.87	8
4. Krishna-Godavari	11.776	8.92	88.87	27
5. Cauvery	8.352	1.5	16.6	5
6. Bengal	6.426	3.42	34.29	7
7. Andaman	19.756	3.0	29.65	19
Total Offshore	140.00	56.77	546.85	228
Total ONGC	391 PY+140 SLK	331.87	2098.96	686



Ministry of Water Resources

Submitted under communication D.O. No. 12/54/86-Coor. of 12 September 1986 from Smt. Sudha Bhare, Deputy Secretary.

Water being man's basic need, its availability becomes almost the quintessence, as it were, for the very existence of any urban conglomeration. It is common experience in our country and elsewhere in the world that plentiful supply of water has been essential for urban growth and lack of it has meant the deterioration of such urban centres. The careful planning of urban areas must, therefore, perforce take into consideration the presence of perennial and adequate supplies of water. The problem which stultifies the growth of many of our cities today is lack of an adequate water supply. Drinking water and water for other domestic and industrial uses in urban areas requires a perennial source of water. The lack of proper planning and projections for further growth have led to acute shortages of water supply not only in our major cities but also in the newly developing townships and other satellite towns. An urban complex today of location, by being in the hinterland of some commercial centre or part or by proximity to the availability of some natural resource which becomes the basis for the development of an industry. But rarely is the long-term availability of water taken into consideration. It is true that the mere availability of water cannot by itself determine such growth. But, while planning any future growth for urban areas, the availability of a perennial source of water must be the sine qua non along with other locational advantages.

2. Water from rivers and lakes is invariably the source for the supply of water to urban areas. Indus-

trial complexes are developing around many cities and towns today, and bringing water for these industrial areas involves large expenditures as several miles of pipelines have to be laid. This has also often adversely affected the availability of water for domestic uses.

3. To overcome these problems, there has to be a close liaison between the urban planners and those who operate the storage reservoirs for irrigation and hydro power generation. It is from operation and regulations of such reservoirs that water supply needs of the urban towns could be met to some extent. Drinking water has priority over all other needs and the availability of this water has to be ensured before water is put to other uses. In planning an urban complex, therefore, the requirement of water for its present population as well as its projected population for the coming 25 to 30 years has therefore to be planned in consultation with the Irrigation Department. Provision of carryover storage in storage projects in water-short areas should also be considered to meet the requirements of water supply. The Irrigation Departments should also be requested to consider the water supply needs of nearby urban areas at the stage of project formulation itself. It is suggested, therefore, that all water supply schemes for urban area be planned in close liaison with the Irrigation Departments.

4. It is also necessary that around cities and towns, where availability of water is limited, restriction is imposed on population influx/growth and industrial expansion of such areas.

Department of Electronics

Submitted under Communication D.O. No. 15(42)/86-Export on 18 July 1986 from Shri B. N. Bhagwati, Joint Secretary.

Urbanisation is a natural process in India, particularly with the increase on standard of living and improved farm practices, which is known to encourage a growing movement from the villages to the cities. However, the concern of planners would be that the problems accompanying urbanisation should be reduced to the minimum. Electronic industry normally thrives in an urban setting where infrastructure of higher order and skilled manpower is available. At the same time the Electronics industries are not based on natural resources and one in the sense foot loose. It is for this reason that Electronic industry has in recent years spread more evenly in the country and cities like Bangalore, Pune, Gandhinagar, Bhubneshwar, have attracted Electronics industries.

Electronics can also play a role in controlling the problems of urbanisation. We feel that the administration of large cities require careful planning in various sectors like traffic, water health etc. Computers and computrisation must be increasingly used to help urban planners to take right decisions. Electronics has become a very vital link in the proper management of communication systems in the urban areas.

Another example of growing presence of Electronics is the fact that the Electronics apparatus and sensors can effectively monitor the levels of pollution emanating from power stations etc. Introduction/ maintenance of electronic equipments in the hospitals is now commonly accepted.

Thus, electronics has links with urbanisation at two levels :

- (i) Electronics as creator of employment opportunities can be used depending on where we want to promote such industries; and
- (ii) Electronics affects day-to-day life through entertainment like TV, educational aids, computers etc. and can be used for solving some of the problems on urbanisation.

1. Acquisition of additional areas around the proposed industrial undertaken for the creation of a green belt.

2. Designation of areas for town planning and creation of community centres for the local population. This should be followed by detailed planning of the township and community area for the local population that falls outside the scope of the project authorities. Provision of adequate drainage and health services for local population and other commercial centres. These activities to be carried out by the local state government bodies. Inadequate attention to the above aspect leads to the rapid build up of shanty towns and creation of islands of apparent luxury in a sea of poverty. This could contribute to alienation of the social environment to the proposed corporations.

3. Mobilisation of massive quantities of consumer goods prior to the start of the main construction activities with a view to ensuring that price levels are maintained and do not get distorted due to large inflow of money without commensurate absorption capacity in the local market.

4. Maximisation of local employment.

5. Specific attention to lay-out of installations, roads and approach areas to enable massive tree plantation. This will also help reduce noise pollution at negligible cost. Routing of power and communication cables to enable tree planting at least on one edge of most arterial roads should be aimed at.

B. EXISTING REFINERIES AND INSTALLATIONS IN DENSELY POPULATED AREAS

1. A joint review should be carried out of the density of transport movement from refineries with a view to examine the nature of hazard in case of a disaster due to large scale surface movement of petroleum products. In very critical areas, the projects of pipelines movement which are part of the industry strategy to reduce transport energy requirements should be expedited. These projects have a sound pay back and it may be necessary to give these projects a higher priority as they add to the reduction of urban blight.

2. It is likely that some refineries are operating in areas where temperature inversions are commonplace. Review of standards of pollution and control of emissions from vehicles in and around these areas would be necessary. Whereas imposition of severe

controls on public sector corporation is easy, the possibility of low cost options is achieve pollution control should also be examined, e.g. emission control from road vehicles, minimisation of personal transport etc.

3. Consumption of petroleum products in densely populated areas

As part of the continuing strategy to improve the quality of habitation around refineries the industry should initiate action to control and noise and light pollution. Further, in the case of new refinery installation background noise levels should be recorded and compared with the situation after completion of the installation. Any significant increase in noise pollution should be corrected.

Efforts should be made to screen high noise emitting zones in the refinery by cost-effective methods such as tree plantation, etc. or even by the use of barriers.

4. Standing Committee to accelerate beautification

A Standing Committee should be appointed to examine progress in beautification and achievements of specific corporations so that knowledge and idea transfer occurs within the sector. Preparation of quarterly Newsletters devoted to methods to reduce urban blight for consumption within industry (and may be for other progress industries if interest is avinced) could be started.

C. CONSUMPTION OF PETROLEUM IN DENSELY POPULATED AREAS

The key areas which would need study would be :

1. Use of IC engine based vehicles in inner cities

The possibility of providing mass transport in place of personal transport with either EC engine or electric driven could be considered. To a large extent it would depend on the nature of activities in the inner-cities and the practicability of eliminating use of personal vehicles. In any case if total restriction is not possible use of personal vehicles during peak hours could be stopped excepting in the case of emergency services.

2. Mandatory use of Efficient stoves

It has been observed that in densely populated cities inefficient use of fuel in domestic applications does contribute in no small manner to urban pollution. Use of efficient stoves would not only save fuel but bring down pollution in a very cost effective manner. Even subsidised sale of stove can be considered in these areas.

3. Control of emissions from IC engine based vehicles

Monitoring of IC engines should be made mandatory particularly in densely populated urban areas. Development of noble metal catalytic devices to reduce emissions could be undertaken by the sector in a big way. Restriction in the use of high pollution vehicles into inner cities as a preliminary step would also help considerably. Most of these activities would not only bring down urban pollution but would also help energy conservation since a very large proportion of road transport either originates from or terminates at densely populated areas. Control at these points would help bring down petroleum consumption and would help the national economy.

4. Use of heavy distillates in 2-stroke engines

The licencing of 2-stroke engines using heavy distillates should not be permitted under any condition. Even in the case where a licence has been issued efforts should be made to educate the concerned organisation on the policy to be adopted with regard to use of such vehicles in urban areas and possible restrictions that are likely to come in the near future.

D. DESIGN OF NEW CITIES

Advance planning of New Cities should cater to the needs of the petroleum sector particularly with regard to requirements of new installations such as :

- (a) LPG Botting
- (b) Depots
- (c) Natural gas networks
- (d) LPG networks
- (e) Segregation of commercial and residential areas to enable restriction of personal vehicles in commercial areas with a view to reducing pollution levels.

Ministry of Welfare

From communication D.O. No. 12/1/86-MC of 24 October 1986 from Shri R.K. Saiyed, Additional Secretary.

We would request that the Commission may kindly keep in view the problems of weaker sections of minorities concentrated areas in some of the cosmopolitan cities like Hyderabad, Bombay, Calcutta and New Delhi etc. living in highly congested situations with inadequate basic civic amenities, in the light of Prime Minister's 15-point programme, for fuller integration of minorities in all aspects of national life.

From communication D.O. No. 6019/AS(S)/86 of 29 January/5 February from Shri R. K. Saiyed, Additional Secretary.

We understand that Ministry of Urban Development have set up a Commission on Urban Development to examine the future direction of Urban development in the country, in October, 1985. In this connection we would request that the Commission may kindly be advised to keep in view the problems of weaker sections of minorities, concentrated areas in some of the important cosmopolitan cities like Hyderabad, Bombay, Calcutta and New Delhi etc. living in highly congested situations with inadequate basic civic amenity in the light of PM's 15-point programme for fuller integration of minorities in all aspects of national life, in conducting their studies and in formulating their suggestions on urban development.

OIL INDIA LIMITED

VIth Five Year Plan

(Reduced outlay of Rs. 1000 crores)

सत्यमेव जयते

	Metres (000)	Well (Nos.)	Outlays (Rs./crore)
Exploratory Drilling:			
Assam and Arunachal Pradesh	211.4	59	137.43
Mahanadi Basin :			
(i) Onshore —Drilling	18.0	9	9.00
—Capital outlay			1.00
(ii) N. E. —Drilling	25.5	6	86.00
—Capital outlay			4.00
Andaman Basin :			
—Drilling	29.0	6	35.00
—Capital outlay			24.00
Total	290.4	83	356.43

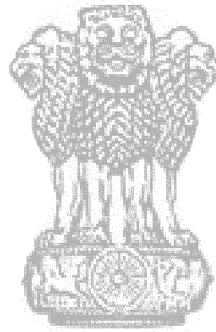
	Metres (000)	Well (Nos.)	Outlay (Rs./crores)
Development Drilling :			
Assam & Arunachal Pradesh (Excluding New fields)	472	138	140.82
Surveys :	line kms.		
Assam & Arunachal Pradesh	10400		9.60
Mahanadi Basin :	—		—
(i) Onshore			
(ii) N.E. Coast			
Andaman Basin	5000		2.50
Rajasthan	10200		20.00
Total	26600		32.10

CAPITAL OUTLAY

Assam & Arunachal Pradesh:

(i) Survey & Computer upgradation, etc.		10.60
(ii) Drilling & Workover		
(a) Drilling Rigs & Accessories A Nos Rigs+Spillover		76.98
(b) Workover Rigs		8.50
(c) Miscellaneous & Back-up equipment		64.00
(iii) Production Equipment & Facilities ;		
(a) OCS & Tanks Farms		13.41
(b) Well Hand Equipment		11.56
(c) Flow lines		23.00
(d) Artificial Lift		33.00
(e) Compressor-Gas Lift		17.85
(f) Oil & Gas despatch line		13.00
(g) Water Injection		6.00
(iv) Gas Compressor Service		10.00
(v) Special items		20.00
(vi) Back-up Equipment/facilities R&D/Training Employees Housing & Welfare		84.16
(vii) Projects Scheme' CIFS		392.06
(a) Jorajan Development		28.31
(b) Additional Power Generation		13.00
(c) Pipe line expansion		37.28
Total		78.59

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100



सत्यमेव जयते

ANDHRA PRADESH

URBANISATION TRENDS IN ANDHRA PRADESH

1. Introduction

Urbanisation is a finite process in transition of an agrarian society to an industrial, and different urbanisation levels reflect different degrees of economic development. Urbanisation and development are often seen as causally related so that the share of the urban population in the total population is usually taken as an indicator of the level of development. But, recent urbanisation in the State has not been accompanied by industrialisation alone, and many of the emerging urban centres are nothing but evergrown villages dependant on the tertiarisation of the regional economy for their maintenance.

2. Basically, Andhra Pradesh is an agricultural state, where more than 70 percent of the population depends upon agriculture for their livelihood. However, since independence, considerable attention was paid to development of large, medium and small-scale industries in the State. This has resulted in the

tremendous growth of urban population over the years.

3. The pace of growth of the urban population is substantially higher than that of the rural population. The level of urbanisation in Andhra Pradesh is more or less at par with the country's average. The number of people living in urban areas registered a ten-fold increase in the State since 1881. (from 1.3 million in 1881 to 12.46 million in 1981). On the other hand, the rural population increased only two-and-a-half times during the same period.

4. Regional Distribution of Urban Population

There are 3 Regions in Andhra Pradesh, viz., Telangana Region, Coastal Andhra Region and Rayalaseema Region. Of the 252 Urban units in Andhra Pradesh, Coastal Andhra has 110 urban units, Telangana has 94 while Rayalseema has 48 units.

TABLE 1
REGIONAL DISTRIBUTION OF URBAN POPULATION OF A.P. 1931

Region	Percentage urban population to total population	Percentage of Urban to total population of State	Percentage of Urban area to total urban area of State.
1	2	3	4
Coastal Andhra	22.87	43.55	41.1
Rayalaseema	20.17	15.70	21.44
Telangana	25.17	40.75	37.37
A. P.	23.25	100	100

TABLE 2
REGIONAL DISTRIBUTION OF URBAN AREAS A. P. AS PER 1971 CENSUS

Region	Class-I	Class-II	Class-III	Class-IV	Class-V	Class-VI	Total
1	2	3	4	5	6	7	8
Coastal Andhra	9	6	30	33	19	1	98
Rayalaseema	1	8	12	14	7	—	42
Telangana	3	3	17	29	12	3	67
Andhra Pradesh	13	17	59	76	38	4	207*

*Excludes 17 units under agglomeration areas of Class-I cities.

Although Telangana is the most urbanised region, yet if the Hyderabad Urban Agglomeration is excluded, the degree of urbanisation comes down sharply. Half of the total urban population of Telangana Region live in Hyderabad Agglomeration which covers one-fifth of the total urban area of the region. Coastal Andhra may be considered a progressive region, followed by Rayalseema. The Telangana Region excluding Hyderabad Agglomeration, appears to be the most backward region of the State. Six of the nine biggest cities of the State, viz., Vishakapatnam, Vijayawada, Guntur, Rajamundry, Nellore and Kakinada lie in Coastal Andhra and seem, responsible for accelerating the urban growth of this region. In the context of the administrative regions of A.P. (as mentioned earlier), the following observations are pertinent in regard to process of urbanisation :

The Rayalseema Region is a resource based region, but serves as a raw material/production source (viz, the numerous cement, plants, stone and mineral quarries, etc.) for consumption elsewhere. It in other words serves as a hinterland to the other urban areas.

The Coastal Andhra Region is predominantly agricultural based. The Krishna and Godavari delta areas being the main focal points. These tracts have not only the highest concentration of urban population but also rural population. 9 cities and about 80 towns out of 224 cities and towns (1971 census) of A.P. are situated in these delta tracts. The urban centres in this region mainly serve as service centres for the agricultural rural hinterland. But with the prospects of Oil reserves in the East Coast belt, the spatial distribution and process of urbanisation is liable to change drastically.

The Telangana Region is emerging as predominantly industrial region but decentralisation has not been effective. A major portion of the industrial growth is taking place in the Hyderabad Metropolitan Area.

5. Migration Trends :

Population migration is a major component of urban growth. In respect of A.P. as per 1971 census, it is apparent that migration from rural to urban areas within the State is a major component of net migrants into urban areas. In Coastal Andhra region, Vishakapatnam, Krishna and Guntur Districts had more than 30 percentage of net urban migrants, while in Telangana Region, Hyderabad district had more than 50% net urban migrants. In Rayalseema, Ananthapur and Kurnool districts had more than 24% of net urban migrants.

6. Problems

A general analysis of Urban growth during the last two decades implies that industries have tended to concentrate in the larger urban areas causing severe environmental problems, acute traffic and transportation problems, growth of slums, and severe shortage of basic amenities like water supply, proper sanitation, adequate housing facilities, etc. The unplanned and haphazard urbanisation creates a category of

urban poor. The economic structure of modern industry encourages the creation of a much larger dependent employment structure, viz., the 'informal sector' i.e. small business, petty shops, small trade and hawking, which has been found in larger urban areas. This has become one of the main focus of urban planning.

Every year there is a large influx of unskilled labourers from the rural hinterland to the larger cities. Most of them go for a few months, but maintain their roots in the villages. These people do all sorts of odd jobs like rickshaw pulling, repair, hawking, etc.

7. Evolution of Policy Guidelines :

During the last two decades, programmes for urban development have been taken up under the various 5 year plans at the centre as well as State level for tackling the urban problems.

The 3rd Five Year Plan recognised that haphazard urban growth was the root cause of deteriorating living condition in urban areas. The plan envisaged zoning the use of land in urban areas, separation of industrial development and preparation of Master Plan. Master Plans were prepared for all the Class-I Towns in the State.

In the 5th Five-Year Plan emphasis was laid on extension and augmentation of civic services and the need for comprehensive and integrated urban development. The intention was to channelise the trend of urbanisation in a very effective way. The State Government enacted the A.P. Urban Areas (Development) Act, 1975 and subsequently constituted Urban Development Authorities for Hyderabad, Vishakapatnam, Vijayawada, Guntur, Tenali, Tirupati and Warangal respectively.

In the 6th Five Year Plan a centrally sponsored scheme for integrated development of small and medium towns (IDSMT) with a population of less than one lakh according to 1971 census was introduced. Under this scheme, 18 towns of A.P. have been selected for infrastructural development.

The urbanisation policy for the nation as a whole by and large emphasises the need to contain the growth of large cities and metropolitan areas, and stabilise the population in these big cities at a desirable optimum level by simultaneously developing the small and medium sized towns so as to arrest the migration to big cities. This requires a regional approach to the problem of urban development with re-organising the local administration to enable cope with growing problems.

The State Government adopted the Mandals set up of local administration as part of administrative reforms. These Mandals are expected to influence the process of urbanisation to a certain extent. The Mandals (1104 in number) would certain all the core facilities catering to a population of about 50,000, and are expected to be effective service centres and growth centres.

8. Priority & Priority Areas

It has been established that the migration to urban areas is mainly economic migration—in search of employment. The freedom to move about in search of better occupations and living standards is the hall mark of citizenship within a nation. This mode of migration is increasingly becoming important in our developing society. Patterns of migration vary both in time and space. Policies for the promotion, restriction or regulation of migration therefore need to be time specific and space-specific.

It is evident that the relationship between urbanisation and industrialisation which is significant cannot be properly established if States are taken as units for analysis, etc. Further, the impact of urban growth cannot be analysed by taking settlements as the basic units. The process of urbanisation must be analysed in the context of regional economy. The economic planning both at centre and State level have been more concerned with aggregate measures of development. The disparities namely place (spatial) and people (population) disparities have increased. The recognition of both of these and framing effective and deliberate public policies may shape the spatial organisation of regional and national development.

Hitherto, urban planning and development has been 'place based'. It now has to be 'people based'. While acknowledging the importance of spatial base, Earlier urban planning had a physical spatial, environmental and visual base while social and other policies were somehow expected to fit these other criteria. The fact is that social policies need to recognise spatial implications just as much as spatial policies need to recognise social implications. The parameters are thus changing and an interdisciplinary prospect is emerging.

9. Measures for tackling the situation :

Besides the above, a perspective plan for the various macro and micro regions that has to be integrated with the economic development plan and programmes is warranted. The steps taken to channelise the urbanisation process should not only consist of mere physical development of the regions should be more meaningful and not based merely on the basis of rural, urban and metropolitan which are too artificial. On the other hand, the local administration set up has also to be kept in view, especially in the context of the Mandal set up in A.P. while advocating the long term urbanisation policy.

GENERAL PERCEPTION OF URBANISATION IN ANDHRA PRADESH AND ROLE OF LOCAL BODIES

1. General perception of Urbanisation in the State

1.1 The Urban population of Andhra Pradesh State is 124.88 lakhs as per 1981 census. The Urban population of the State increased from 62.75 lakhs in 1961 to 124.88 lakhs in 1981 which accounts for the doubling of the Urban population of the State during 1961-81. The Urban areas in the State have also increased from 223 in 1961 to 252 in 1981. The Urban population of the State has steadily recorded higher growth rates in the successive decades even since 1961. While the growth rate of Urban population of the State was only 15.76% during 1951-61 it was 33.92% during 1961-71 and 48.63% during 1971-81. The proportion of Urban population to the total population of the State also increased from 17.44 percent in 1961 to 23.33 percent in 1981 and number of class I cities (more than a lakh population) also increased from only 11 in 1961 to 20 in 1981.

2. The agencies working for urbanisation programme in the State

2.1 The agencies have been broadly categorised into State level and local level with agencies having sectoral approach to any of the components of urbanisation. They are :

2.1.1 State level

- (i) Commissioner and Director of Municipal Administration.

- (ii) Director Town and Country Planning.

- (iii) Chief Engineer (Public Health).

2.1.2 Local Level

- (i) Urban Development Authorities.

- (ii) Municipal Corporations.

- (iii) Municipalities.

2.1.3 Agencies having sectoral approach

- (i) Andhra Pradesh Housing Board.

- (ii) Andhra Pradesh State Housing Corporation.

- (iii) Andhra Pradesh Police Housing Corporation.

- (iv) Andhra Pradesh Industrial Infrastructural Corporation.

- (v) Andhra Pradesh Industrial Development Corporation

- (vi) Director of Marketing.

3. Whether on-going programmes fit in with the State's perception of Urbanisation

3.1 In the absence of any National Policy on urbanisation, the State could not frame any urban policy for the State, since the Economic or Industrial Developments of the Centre and State Governments have profound influence on urbanisation which was

never thought of spatial planning or their effects on environment. Hence there is no such perception of urbanisation. However while preparation of Master Plans for urban centres in the State and depending upon growth potentials of the towns the Department has adopted an approach in order to organize the growth in a balanced way for the fast growing urban centres in the State. This is in this direction that the Urban Development Authorities have been conceived as an agency which should take-up the entrust the task of checking the deteriorating situation of the traffic, infrastructure and institutional arrangements. The Development Authority is conceived as an agency which should take-up the Planning and Developmental activity by itself in order to facilitate participation in such activity. Basing on the Hyderabad Urban Development Authority other Development Authorities have also been constituted in other regions of the State. They are :

1. Visakhapatnam Urban Development Authority.
2. Vijayawada-Guntur-Tenali Urban Development Authority.
3. Tirupathi Urban Development Authority.
4. Kakatiya Urban Development Authority.
5. Quli Qutub-shah Urban Development Authority.

3.2 Keeping in view the growth rate of urban population in the State and also taking into account the individual growth rates of each town, the Master Plans are being prepared for various Urban centres in the State. All developmental activities within the broad frame work of the Master Plan are being fit into, in order to achieve cohesive planned development, through various on-going programmes.

3.3 Following are the on-going programmes in the State of Andhra Pradesh.

- (i) Integrated Development of Small and Medium Towns.
- (ii) Environmental Improvement of Urban Slums.
- (iii) Economically Weaker Section Housing.
- (iv) Grants for the Implementation of Master Plan, including road widening, parks, playgrounds etc.
- (v) Grants to School Buildings.
- (vi) Development of Industrial Estates.
- (vii) Housing Projects undertaken by
 - (i) Andhra Pradesh Housing Board.
 - (ii) Andhra Pradesh Police Housing Corporation.
- (viii) Development of Market-yards by Agricultural Market Committee.

3.4 The on-going programmes are examined with reference to Master Plan so as to ensure compatibility of the land uses envisaged in the Master Plan

and also to fit into the over-all frame of the said plan. These on-going programmes have catalyst trigger developments in the Small and Medium size towns within the broad frame of the Master Plan.

4. Problems of Metropolitan cities—Small and Medium Towns and growth centres with special focus in new towns (towns which have been designated as urban towns in 1981 census)

4.1 The urban areas are growing day by day due to influx of migrating population from rural areas. This enormous increase in population and the consequent growth of the Cities and towns in terms of size and extent resulted in series of problems. The urban problems represent similarity but vary in magnitude.

4.2 *The problems of Metropolitan Cities :—*The Metropolitan cities are facing series problems like the acute shortage of housing stock and sub-standard living due to inadequacy of living space, straining the existing utility systems and consequent reduction in service standards, variation in the composition of traffic with frequent bottlenecks causing high incidence of traffic accidents. Added to this, the location of industries without any preconceived plan in the past resulted in haphazard development in many urban areas of today consequently giving rise to the growth of the slums, deterioration in services like water supply, drainage etc., and the serious unhygienic and insanitary conditions, coupled with Air pollution.

4.3 *Problems of Small and Medium Towns :—*The problems of the Small and Medium Towns would be similar to the one already explained in the fore-going para. They however differ in degree and magnitude so far as the accuteness is concerned.

4.4 The neighbouring Metropolitan cities and Major towns exercise dominance over the Small and Medium Towns. As a result the Small and Medium Towns could not register growth rate which they are supposed to be. In many cases due to predominant influence of Major Cities and Towns they base. It is therefore with a view to promote developmental activity in these Small and Medium Towns, the programme like Integrated Development of Small and Medium Towns is taken up as ongoing programmes. This programme would help as catalyst to attract further developments and to absorb migrating population as "Counter magnet" to such major cities and towns.

4.5 *Growth Centres :—*These are the urban centres which does not have encouraging growth rate but have the potentiality for development if impetus is given. It is in this direction that the Government of Andhra Pradesh has envisaged an innovative exercise called 'Mandal Concept'. This concept is visualised to transfer the polarisation of administration of the State to a decentralised form in order to be within the reach of the common man. There are 1104 growth centres identified in the State as Head Quarter for the Mandals in order to develop them in a comprehensive manner with all necessary facilities required for proper development of the growth centre and to be

able to take care of the needs of its hinterland. The mandal concept is an innovative idea which would ensure a 'step migration' of the rural population to any urban centre.

5. Role of local bodies in urbanisation

5.1 *Number and Categories* :—There are 252 urban centres in the State as per 1981 census and among them there are 3 Municipal Corporation and 93 Municipalities (vide Annexure I).

5.2 Out of 252 cities and towns, 20 have population of more than one lakh each, 30 are in the range of 50,000 to 1,00,000 population, 88 towns in the range of 20,000 to 50,000 and the rest are towns having less than 20,000 population.

5.3 *Functions* :—The Municipalities in the State have got the following four different branches of administration :

1. General Administration.
2. Public Health.
3. Engineering and
4. Town Planning.

5.4 The General Administration of the Municipality takes care of the collection of general revenue and its expenditure towards providing, civic amenities. While the Public Health would care for general sanitary and hygienic conditions of the town, the Town Planning would help in guiding the developmental activity of the Town within the broad frame of the Master Plan where there is Master Plan and in other cases according to interim development plans issued by the Department from time to time. The Engineering Department takes care of the water supply constructional activity such as roads, drains, culverts, bridges maintenance of recreational spaces like parks, play-fields etc.,

5.5 *Special problems* :—The most striking problem of the Municipality in the state is the financial constraint. With the low rate of taxation the Municipalities are unable to cope with the growing demands of the town so as to render the 'minimum needs' to the public.

5.5.1 The resource mobilisation has been the main problem of the local bodies immediately requiring the attention upon the tax structure and collection of general revenue to the Municipality.

5.5.2. The State Government to augment the resources of the Municipalities and the Central Government to help implement the Urban Development Schemes through financial assistance should come in a big way to alliviate the special problems of the local bodies particularly of lower status.

6. The Problems thrown up by the Municipality/ agencies in urban areas and solutions thereof

6.1 The agencies enunciated under item No. 2 would go to suggest that there are too many agencies

to deal a problem from their own point of development. This is resulting into a situation where coordination is badly affected. This is clearly visible in case of land acquisition for various development activities by the each agency like acquiring the land for weaker section housing or for location of a industrial estate etc., without any reference to the broad frame of the Master Plan available for the towns. While the Master Plan aims at achieving cohesive development according to various designated land use zones the land acquisition in most of the cases deviates such land uses designated in the Master Plan causing inconvenience to the concerned agency and resulted inconvenience to the general public.

6.2 Even the multiplicity of agencies would amount to duplication of work in addition to over-lapping of jurisdiction. Many times too many agencies would work diabolically opposite to achieve their targets in the process. There will be no cohesion between the central department to state department and among state departments themselves. Some agencies which are working at the sectoral approach for certain urbanisation components like housing are not able to appreciate the broad frame of the Master Plan because of their sectoral approach and as a result many times offend the designated land use of the Master Plan much to the inconvenience of the General public. This is partly because of the compartmental sectoral approach the agencies are working at without any relevance to the overall development of the Town.

6.3 It would be desirable that the developmental activities of various organisation are taken up with reference to Master Plan in order to fit into its broad frame any activity which would give fillip to the growth and development of the town.

7. Status of preparation of Master Plans for the Cities and Towns

7.1 There are 3 Municipal Corporations and 93 Municipalities in the State. The statement show in the status of preparation of Master Plans for the cities and Towns is given in Annexure-II.

8. Impact of Urban Ceiling Act on Urbanisation

8.1 The Urban Land Ceiling Act was passed by Parliament keeping in view to acquire far-reaching consequences on the economy, way of life and fundamental rights of the Citizens. An imperative need is felt to take measure for exercising the social control on the Urban land for equitable distribution among various sections of the societies and to avoid speculative transactions relating to land in urban areas.

8.2 The Act is visualised to introduce the radical new concept of confirming "presumption right" to the Government in respect of sale and transfer of plot with buildings and building within the ceiling limits and prior permission is required for such sales of transfers. The act aims at 'under cutting' the values of the properties in registerable documents for not escaping stamp duty.

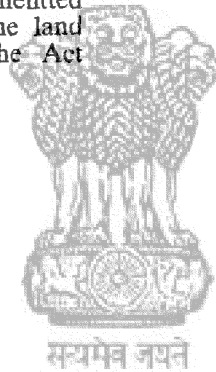
8.3 The Act also aims at distribution of surplus lands for urban development conforming to the Master Plan zones giving due regard to the general land use pattern.

8.4 With the afflux of time the urban land ceiling proved to be more adverse than what it is conceived of. As a result of restriction upon the 'Urban land holdings' the land owner could not supply the land to developmental activity and because of the stringent restrictions upon the re-conveyance of surplus land the common man could not be benefitted. The land costs has steeply risen owing to land becoming scarce commodity, due to freeze of urban land. As town is a "adjustable self magnet" the developmental activity on the urban scene finds its own mechanism in the form of unauthorised sub-division of land and unauthorised constructions. They have, of late, become a great menace for the urban administration which have no regard for any developmental activity according to the Master Plan. The main aim of distribution of surplus land to landless ceiling Act keeping the poor man still continuing in the squatters and slum areas. One of the adverse effects of this Act is the mushroom growth of Multistoreyed buildings, which in turn has strained the existing utilities like Water Supply, Electricity, drainage, Telephone cables etc. These multi-storeyed buildings in effect catered to the rich while the poorer and middle class society was not benefitted by the ceiling Act, as the land is scarce. The land prices have sky-rocketted by 100% after the Act came into force.

9. Urbanisation prospects in the Context of 2001, 2025

9.1 The growth trends of the urban population of the Andhra Pradesh has been explained under Item No. 1. Anticipating similar growth trends, the State is anticipated to have a total population of 836 lakhs by 2001, and over 1300 lakhs by 2025. Atleast one third of the total population of the State would be living in Urban areas by 2001, and a figure in the range of 45 to 50 per cent of the total state population would be urbanised by the turn of the quarter of the next century. This means in absolute terms, a staggering figure of over 270 lakhs by 2001 and yet another peak of over 550 lakhs by 2025 would be the State Urban population.

9.2 The proportion of Urban Population living in Class I cities (more than a lakh population) of the State steadily increased from 24.38% in 1901 to 48.36% in 1971 and to 53.69% in 1981. Assuming a similar growth pattern it may be safely envisaged that roughly about two-thirds Urban population of the State would be living only in Class I cities by 2001 and about three-fourth of the urban population of the state by 2025. There would be a total of 45 Class I cities by 2001 and over 70 by 2025 from the existing number of only 20 as per 1981 census.



N. VENUGOPALA REDDY
Director of Town and Country Planning : A.P.

ANNEXURE I

LIST OF MUNICIPALITIES IN ANDHRA PRADESH

Sl. No.	Name of the Municipality	District	Sl. No.	Name of the Municipality	District
(1)	(2)	(3)	(1)	(2)	(3)
MUNICIPAL CORPORATIONS			5. Peddapuram		East Godavari
1. Hyderabad		Hyderabad	6. Samalkot		East Godavari
2. Visakhapatnam		Visakhapatnam	7. Ramachandrapuram		East Godavari
3. Vijayawada		Krishna	8. Pithapuram		East Godavari
SELECTION GRADE :			9. Mandapeta		East Godavari
1. Guntur		Guntur	10. Tunji		East Godavari
2. Eluru		West Godavari	11. Bebbili		Vizianagaram
3. Kakinada		East Godavari	12. Parvathipuram		Do.
4. Rajahmundry		East Godavari	13. Bapatla		Guntur
5. Nellore		Nellore	14. Repalle		Do.
6. Kurnool		Kurnool	15. Chilakalurpet		Do.
7. Warangal		Warangal	16. Ponnur		Do.
8. Nizamabad		Nizamabad	17. Kavali		Nellore
SPECIAL GRADE			18. Gudur		Nellore
1. Tenali		Guntur	19. Madanapalli		Chittoor
2. Machilipatnam		Krishna	20. Tadpatri		Ananthapur
3. Ongole		Prakasham	21. Srikalahasti		Chittoor
4. Gudiwada		Krishna	22. Adilabad		Adilabad
5. Bhimavaram		West Godavari	23. Siddipet		Medak
6. Vizianagaram		Vizianagaram	24. Bodham		Nizambad
7. Ananthapur		Ananthapur	25. Nalgonda		Nalgonda
8. Gudaapah		Cuddapah	26. Malkajigiri		Rangareddy
9. Chittoor		Chittoor	27. Jagtial		Kareemnagar
10. Tirupathi		Chittoor	28. Suryapet		Nalgonda
FIRST GRADE			29. Yemmiganur		Kurnool
1. Anakapalle		Visakhapatnam	30. Markapur		Prakasam Dist.
2. Srikakulam		Srikakulam	31. Dharmavaram		Ananthapur
3. Palacole		West Godavari	THIRD GRADE :		
4. Tadepalligudem		West Godavari	1. Salur		Vizianagaram
5. Chirala		Prakasam	2. Kovvur		West Godavari
6. Narasaraopet		Guntur	3. Bhimunipatnam		Visakhapatnam
7. Guntakal		Ananthapur	4. Jaggayyapet		Krishna
8. Hindupur		Ananthapur	5. Nuzvid		Krishna
9. Adoni		Kurnool	6. Mangalagiri		Guntur
10. Proddatur		Cuddapah	7. Macherla		Guntur
11. Nandyal		Kurnool	8. Sattenapalli		Guntur
12. Khammam		Khammam	9. Kadiri		Ananthapur
13. Karimnagar		Karimnagar	10. Rayadurg		Ananthapur
14. Mahaboobnagar		Mahaboobnagar	11. Mancherial		Adilabad
15. Kothagudem Notified area Committee		Khammam	12. Nirmal		Do.
16. Ramagundam Notified Area Committee		Karimnagar	13. Kagaznagar		Do.
17. Sirpur Notified Area Committee		Adilabad	14. Bhainsa		Do.
SECOND GRADE			15. Medak		Medak
1. Narsapur		West Godavari	16. Sangareddy		Medak
2. Tanuku		West Godavari	17. Sadasivpet		Medak
3. Nidadavole		West Godavari	18. Gadwal		Mahaboobnagar
4. Amalapuram		East Godavari	19. Narayanpet		Mahaboobnagar
			20. Bhongir		Nalgonda
			21. Jangaon		Warangal
			22. Zaheerabad		Medak
			23. Tandur		Rangareddy
			24. Miryalaguda		Nalgonda
			25. Wanaparthy		Mahaboobnagar
			26. Peddau		Krishna
			27. Punganur		Chittoor
			28.		Srikakulam

ANNEXURE II

ABSTRACT STATEMENT SHOWING THE STAGES OF MASTER PLANS IN ANDHRA PRADESH (COASTAL ANDHRA).

Sl. No.	Total No. of Municipalities in the Region	Master Plan Sanctioned	Master Plan submitted to Govt. for final sanction through proper channel	Master Plan submitted to Govt. for formal approval	Draft Master Plan referred to Council for submission to Govt.	Master Plan under pre-paration	Master Plan under survey	Master Plan yet to be taken up
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1. COASTAL ANDHRA								
	42	1. Kakainada 2. Machilipatnam 3. Rajahmundry 4. Eluru 5. Ongole *6. Guntur *7. Tenali	1. Bhimavaram 2. Gudivada	—	1. Srikakulam	1. Tanuku 2. Tadepalligudem	1. Rajahmundry (extended-areas)	*26

NOTE : 1. (*26) 1. Parvathipuram, 2. Bobbili, 3. Saluru, 4. Amalapuram, 5. Mandapeta, 6. Ramachandrapuram, 7. Peddapuram, 8. Samalkot, 9. Pithapuram, 10. Tuni, 11. Palacole, 12. Narsapur, 13. Nidadavolu, 14. Kovvuru, 15. Nuzvidu, 16. Jaggayapeta, 17. Pedana, 18. Narasaraop, 19. Chilkalaripet, 20. Bapatla, 21. Repalle, 22. Ponnuru, 23. Sathenapally, 24. Macherla, 25. Chirala, 26. Markapur.

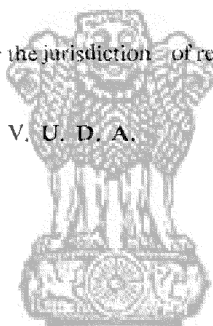
2. Master Plans for the following 6 towns are under the jurisdiction of respective Urban Development Authorities.

1. Vizianagaram
2. Anakapalli
3. Bheemunipatnam

V. U. D. A.

*4. Tenali
*5. Guntur
6. Mangalgiri

V. T. U. D. A.



सत्यमेव जयते

ABSTRACT STATEMENT SHOWING THE STAGES OF MASTER PLAN RAYALASEEMA AREA

Sl. No.	Total No. of municipalities in the Region	Master Plan sanctioned.	Master Plan submitted to Govt. for final sanction through proper channel	Master Plan submitted to Govt. for formal approval	Draft Master Plan referred to Council for submission to Govt.	Master Plan under pre-paration	Master Plan under survey	Master Plan yet to be taken up
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
2. RAYALASEEMA								
	21	1. Nellore 2. Kurnool 3. Ananthapur 4. Tirupathi 5. Ouddapah	1. Chittoor 2. Guntakal	—	1. Adoni	1. Proddatur	2. Nandyal	1. Kavali. 2. Gudur 3. Yemmigam 4. Tadpatri 5. Hindupur 6. Kadiri 7. Dharmava 8. Rayadurg 9. Srikalahasti 10. Madanapa 11. Punganur

ABSTRACT STATEMENT SHOWING THE STAGES OF MASTER PLAN IN TELANGANA REGION

Sl. No.	Total No. of municipalities in the Region	Master Plan Sanctioned	Master Plan submitted to Govt. for final sanction through proper channel	Master Plan submitted to Govt. for formal approval	Draft Master Plan referred to Council for submission to Government	Master Plan under pre-paration	Master Plan under survey	Master Plan yet to be taken up
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
3. TELANGANA :								
30	1. Nizamabad 2. Mancherial 3. Kothagudem 4. Mahbubnagar 5. Warangal. 6. Suryapet 7. Karcemnagar	1. Jagital 2. Siddipet 3. Khammam 4. Nalgonda	1. Zaheerabad 2. Sangareddy 3. Miryalguda	Nil.	1. Adilabad 2. Jalgaon 3. Bhongir 4. Gadwal	1. Nirmal	1. Bhainsa 2. Kagaznagar 3. Sirpur 4. Bhodan 5. Ramagundam 6. Narayanpet 7. Wanaparthi 8. Tandur 9. Malkajgiri 10. Sadasivapet 11. Medak	
93	19	8	3	2	7	3	51	

NOTE :

1. In order to expedite physical surveys for remaining towns, the survey has been entrusted to N. R. S. A. The work has been taken up in 3 phases, phase-I (16 towns), phase-II (14 towns), Phase-III (21 towns). Aerial Survey Plan for Phase-I, 15 towns received and Base Maps for 12 towns prepared. For Phase-II Aerial Survey completed and mosaics under process with N. R. S. A. For Phase-III out of 21 towns Aerial Survey will be taken up in 1986, for 20 towns since survey has been completed for 1 Town in Phase-III i. e., for Ramagundam.
2. Master Plans for Hyderabad, Vizag & Vijayawada were also sanctioned by Government.



HYDERABAD METROPOLITAN AREA— EFFORTS FOR PLANNING AND DEVELOPMENT

1. INTRODUCTION

The nucleus of the new emerging metropolitan development of Hyderabad was provided by the founding of the city in 1591 AD by the then ruler of Golconda, Mohd. Quli Qutb Shah. It was established about 10 Kms. south-east of Golconda Fort on the Southern Bank of River Musi with the main Highway leading to the Fort of Machilipatnam passing through the middle of the city. The city was well-planned in a regular grid-iron pattern with the Charminar (a monument with four lofty minarets) as the landmark and cardinal point. The city saw many ups and downs till the 19th century. It may aptly be called as "a city of Cultural Saga".

The British established a large cantonment in Secunderabad (about 12 Kms. north of the city) in the early 19th Century. Both these areas developed distinctly. The modern era of the development of Hyderabad-Secunderabad began after the devastating floods of Musi River in 1908. Planned development was undertaken in a phased manner viz., the construction of reservoirs on the Musi River which not only controlled the floods but also served as drinking water source to the city; greater attention was paid to the construction of concrete roads, markets, housing sites, civic buildings etc. Industrial development was promoted in two well-established industrial estates north of the city.

The next phase of massive and accelerated development came after the formation of A.P. State in 1956 with Hyderabad as the State's Capital. Apart from the establishment of a number of research and

defence institutions, two large industrial bases were established in the early 1960's, on the outskirts at Moulali and Ramachandrapuram respectively. This comprised of large public sector undertakings like the Bharat Heavy Electricals Ltd., Electronics Corporation of India Ltd., Nuclear Fuel Complex, Hindustan Cables Ltd., besides these, a number of research and defence institutions were also established in the mid-1960's like the International Crops Research Institute for Semi-Arid Tropics (ICRISAT), Defence labs like DMRL, DRDL and DLRL, Air Force Academy, Geological Survey of India's Research Institutions, Indian Council of Agricultural Research's various institutions like National Institute of Nutrition etc., National Geophysical Research Institute, Central Institute of Tool Design, etc.

The Hindustan Machine Tools, Hindustan Aeronautics Ltd., Indian Detonators Ltd., and Indian Drugs and Pharmaceuticals Ltd., which are major industrial undertakings were also established during this period. All the above major work centres and the consequent ensuing development transformed Hyderabad into a metropolis by the early 1970's.

2. GROWTH OF POPULATION

The Population of Hyderabad was more than 4 lakhs as early as 1901. Between 1961 and 1971, Hyderabad grew at a very fast rate with an average growth of more than 40% due to the factors already mentioned above.

The population of Hyderabad Development Area as per the 1981 Census is about 28 lakhs.

POPULATION DETAILS OF HYDERABAD METROPOLITAN AREA BREAK-UP AND PROJECTED

Sl. No.	Particulars	POPULATION			PROJECTED POPULATION				
		1961	1971	1981	Decade Variation				
					1971-61	1981-71	1981	1991	2001
1.	Population of Hyderabad City.	11,18,553	16,07,396	21,87,262	4,88,843	5,79,866	21,87,262	29,76,863	40,51,514
2.	Population of Urban Agglomeration (including Cantonment.)	1,32,556	1,88,943	4,13,783	56,377	2,24,840	4,13,783	9,06,184	17,84,543
3.	Total Population of Hyderabad City Agglomeration and cantonment.	12,51,109	17,96,339	26,01,045	5,45,220	8,04,706	26,01,045	37,71,515	54,68,68
4.	Population of villages excluding agglomeration, city and cantonment.	1,41,000	2,01,131	2,59,111	60,031	57,980	2,59,111	3,34,253	4,31,111
5.	Total population of the development area (3×4). *(City means Hyderabad and Secunderabad).	13,92,219	19,97,470	28,60,156	6,05,251	8,62,686	28,60,156	40,90,023	58,48,775

According to the trends of growth and population the projections of the Master Plan for the Hyderabad Development Area, Hyderabad Area would reach a population of 40 lakhs by 1991 and 58 lakhs by 2001 AD respectively.

The contiguous built-up area of Hyderabad extends to an area of about 115 square miles (298 Km²), with an average city-level density of 94 persons per hectare.

The population within the municipal area has approximately a fourfold increase since 1901.

The migrants to the city are also responsible for high growth rate. During 1961-71 the growth of migrants was 44.5% as against that of natural population which was 43.4%. There were 4.04 lakhs migrants during 1961-71 both from within and outside the state forming 22.5% of the city's population.

During the seventy-year period, 1901-71, the share of the migrant population in the total population of the Hyderabad Municipal Area increased from 11.7% to 25.5%. Correspondingly the share of the non-migrant component of the population declined from 88.3% to 74.5%.

SHARE OF THE MIGRANT AND NON-MIGRANTS POPULATION IN THE HYDERABAD MUNICIPAL AREA POPULATION 1901-1971

Year	Total population	Migrants	Natural Population
1901	100.0	11.7	88.3
1911	100.0	10.2	89.3
1921	100.0	13.4	86.6
1931	100.0	13.0	87.0
1941	100.0	11.6	88.4
1951	100.0	27.0	73.0
1961	100.0	25.4	74.6
1971	100.0	25.5	74.5

About half of the migrants to the Hyderabad Metropolitan area are of urban origin. This may be contrary to the general belief that majority of the migrants to urban areas are ruralities. In fact in the case of large cities, migration occurs "stepwise" i.e., the process is: rural to small urban area, and then to bigger cities or rapidly urbanising areas of cities. More than 80% of the total rural migrants to Hyderabad are from the districts of Andhra Pradesh and only about 18.0% hail from other states. The share of these districts in the total urban migration is about 50% and the rate of total migration of the Hyderabad Urban Agglomeration is about 65%. Migrants from other States of India constitute about 34% while migrants outside the country are about 1%.

ORIGIN-WISE DISTRIBUTION OF MIGRANTS IN HYDERABAD URBAN AGGLOMERATION

Origin	All migrants	Urban migrants	Rural migrants
All Origin	—	50.4 (100)	49.6 (100)
Districts of A.P.	65.4	49.8 (38.3)	81.5 (61.7)
Overseas	1.0 (100)	1.9 (100)	—

Source : Census of India, 1971.

Perhaps, the process of migration began very late in Hyderabad, the impact of which might be felt every year in future with the increase in the momentum of migration. The increasing flow of migrants into the city will continuously reinforce its heterogeneous character, which will effect deeply the demographic and occupational composition and the overall welfare of the metropolis.

3. ECONOMIC STRUCTURE

The total employment in the city in 1981 was 59 lakhs. The manufacturing sector showed a steady as well as high growth rate since 1931. Obviously during the last 40 years none other than the manufacturing sector recorded the consistent growth. Organised industrial estate came into existence in the early thirties. However, this growth did not culminate in the increase of employment due to rapid population growth.

One of the feature of the city's employment structure is indicated by the service sector which has through out dominated the total employment both in absolute as well as relative terms.

THE EXISTING BREAK-UP OF WORKERS IN VARIOUS OCCUPATIONAL CATEGORIES AS PER CENSUS OF 1971 IN RESPECT OF CITY AREA IS GIVEN IN THE TABLE BELOW FOR THE URBAN AGGLOMERATION OF 115-25 SQ. MILES.

Occupational Category	Workers according to 1971 Census	
	No. of workers	Percentage to total workers
PRIMARY :		
1. Cultivators	5,089	1.00
2. Agricultural Labourers	9,405	1.84
3. Livestock, Forestry, Fishing, Hunting, Plantation and allied activities	3,071	0.60
4. Mining and quarrying	1,907	0.37
Total	19,476	3.82

II. SECONDARY :

5. Household industry	10,596	2.08
6. Manufacturing other than household industry	1,02,497	20.10
7. Construction	23,371	4.58
Total	1,36,464	26.76

III. TERTIARY :

8. Trade and Commerce	1,07,847	21.15
9. Transport, Storage & Communication	68,616	13.45
10. Other Services	1,77,558	34.82
Total	3,54,021	69.42
Total	5,09,957	100.00

Total employment in Hyderabad is increasing, but, population is growing fast with the result that the ratio of workers to total population is declining since 1921 as shown in the following table.

WORKER/POPULATION RATIO IN HYDERABAD CITY
1901--1981

Year	Work participation rate (%)
1901	39.2
1911	41.3
1921	45.8
1931	41.0
1941	41.0
1951	31.8
1961	34.0
1971	27.7
1981	27.29

Note : The sharp decline during 1941-51 is caused by sudden and abnormal increase in population during 1951

Source : Census of India respective decadal publications 1901-81.

The worker-population ratio in Hyderabad is one of the lowest amongst the metropolitan cities in the country.

The dominance of service sector and territory sector in the total employment of the city is practically unique amongst the Indian metropolitan cities. Next to Delhi, the only other metropolitan city in India having almost as high employment in services is Hyderabad.

4. PAST AND PRESENT PLANNING EFFORTS

Like many Indian cities, Hyderabad City faces a crucial dilemma which is the result of haphazard urban planning that has failed to consider human needs and potentials. The creation of a sympathetic and efficient urban environment has long been one of the most complex problems of mass culture. As a result of various factors, Hyderabad has experienced large industrial growth. This has mainly developed in a linear pattern on the West and East of Hyderabad. However, in order to create a balanced urban environment, experience tells us that industrial growth of industry has to be constantly coordinated and integrated with a governing policy of urban development based on several crucial social and economic factors. The unplanned industrial growth in Hyderabad is tending to reach the hopeless magnitude of the phenomenon Bombay faces and the Urban Sprawl is spreading beyond our harnessing powers. It is apprehended that if such horizontal linear industrial growth is unplanned and uncontrolled, Hyderabad city will become a sprawling, chaotic megalopolis, such as Calcutta has grown to be.

To rationalise the growth of the city, Master Plan for the municipal area of the city was prepared and notified by the State Government in 1971. But the plan was inadequate to take care of the complex problems created by rapid unplanned development taking

place in the peripheral region of the city. A comprehensive approach, considering the situation in its totality was highly warranted and a need was felt to have an authority which would co-ordinate the development in the city and the peripheral areas and to channelise the growth in a viable direction.

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5. CONSTITUTION OF HUDA

Viewing all the above, the State Government, in accordance with the recommendations in the 37th Report of the Estimates Committee of the 5th Lok-Sabha and as suggested in the Six Points Formula, Hyderabad Urban Development Authority was the first to be set up in the State under the Andhra Pradesh Urban Areas (Development) Act, 1975.

The object of the Authority is to promote and secure development according to the Master Plan and Zonal Development Plans, which are statutory documents. Such an authority should perform duties which due to statutory or organisational limitations, existing agencies like the Municipal Corporation, Panchayats, the Directorate of Town Planning and A.P. Housing Board etc., can not perform. The emphasis therefore should be on co-ordinated land use planning, development control, development of major transportation net work, and sites and services to facilitate development by Private and Public Agencies as per plan.

The HUDA is an apex body for the planning and development of the Hyderabad Metropolitan Area.

6. MASTER PLAN FOR HYDERABAD METROPOLITAN AREA

The jurisdiction of HUDA has 307 villages, 156 Panchayats, 3 Zillaparishads, 6 Panchayat Samithies and 21 Mandals. The area is evidently vast;—600 sq. miles.

Subsequently, the Master Plan for the Hyderabad Metropolitan Area was prepared and notified by the State Government in September, 1980. The main purpose of the Master Plan is,

- (i) to rationalise the growth of Hyderabad.
- (ii) coordinate and integrate the industrial, residential, commercial, institutional and other developments.
- (iii) to cater to the needs of the present as well as future population of Hyderabad.
- (iv) establish a viable urban structure considering all the prospects, and constraints in view.

The Master Plan for Hyderabad Metropolitan Area in its proposed structure identified the following area of growth :—

- (i) The "urban spread" which comprises of Hyderabad city and its immediate fringe areas. The total area of the urban spread is about 137.97 sq. miles.
- (ii) Development of 4 urban nodes at a distance of about 25-30 Kms. from Hyderabad. These are located along the major highways and the existing railway network. These urban nodes are expected to attract major future population of Hyderabad in these distinct urban centres, these are :—
 - (a) Ramachandrapuram—Patancheru along the Bombay National Highway, and the Broad Gauge Railway line towards Bombay.
 - (b) Medchal—along the Nagpur National Highway, and the Metre Gauge Railway line towards Nizamabad.
 - (c) Ghatkesar—along the Warangal State Highway and the Broad Gauge Railway line towards Kazipet.
 - (d) Shamshabad—along the National Highway leading to Bangalore and the Metre Gauge Railway line towards Mahboobnagar.

Besides, the above, it has also notified certain new growth points at Vanasthalipuram, Medpalli, Kukatpalli, etc., at a distance of about 10-15 Kms. from Hyderabad.

It envisages to discourage further extension of the above development areas by providing a Green Belt (Conservation use zone) all around the urban spread and in-between these areas.

7. THE GREEN BELT & OTHER USES

The main purpose of the Green Belt is not only to act as buffer for preventing overspill of the developments, but also provide for a balanced ecological environment of the area, besides providing for major recreational areas in and around Hyderabad.

The area under Green Belt constitutes nearly 59% of the total area. Residential area constitutes about 29%, while the land use under Industrial use constitute about 3.96% of the total area as per the Master Plan for Hyderabad Metropolitan Area.

8. DEVELOPMENT OF RING TOWNS

Development of Ring Towns has been proposed in the Master Plan document to provide self-sufficient settlements with economic base. In the Ramachandrapuram ring town, a sound economic base is already present. A part of the future population growth is proposed to be accommodated in the ring towns thereby preventing further congestion of the core city. Success of these Ring Towns will however depend on the following :—

- (a) Industrial location policies of the Government must fit into the Master Plan.

(b) Adequate resources and administrative machinery are required for implementation.

(c) Vast lands with all Urban Infrastructure must be quickly available to attract population.

(d) Master Plan roads must be implemented soon to provide increased accessibility to Ring Towns.

THE PROBLEMS OF METROPOLITAN AREA

The growth of metropolitan areas does seem chaotic causing stress on the population. The stresses are reflected in growing slums, congestion, environmental degradation, social tensions, widespread poverty, and inadequacy of facilities such as Water, Transportation, Open spaces, Education, Health etc.

This calls for a more effective urban management and coordination, and necessitating for a better local administration of metropolitan areas.

At present, the metropolitan area has multiplicity of local bodies starting from the Municipal Corporation to the Gram Panchayat. Each being an autonomous body, the coordination of development etc., is becoming a difficult task. Added to this is the multiplicity of implementing agencies especially for public development and services. The Urban Development Authorities were expected to grapple with these, viz., the coordination but they somehow have not succeeded in this respect due to various reasons.

In respect of Hyderabad Metropolitan Area the provision of physical infrastructure especially water supply is an aggravating problem with the situation becoming hopelessly inadequate in times to come. With the metropolis developing in all directions, the provisions of water supply and other services is also becoming difficult. Most of the outlying areas rely on ground water which is also proving to be inadequate. Further, added to this is the pollution problem containing the ground water especially in certain fringe areas of Hyderabad.

The transportation system is also severely strained. The presently viable mass transit system available is the system. But the growing population, growing work centres, work force, the structure of the metropolis (radiat concentric), the bus system is not able to cater effectively to the daily needs of the populace.

Although there is increase in road links, road widths and other traffic improvements, the number of increasing vehicles on the roads seem to make it ineffective. The problem of traffic congestion is actually felt in the core of the city.

There is a necessity for a viable rapid transit system for the Hyderabad Metropolitan Area, which would take effectively care of the transportation problems of the city.

The industrial development in Hyderabad Metropolitan Area is proceeding in a lopsided manner due to various reasons. One of the most important of these

is the Government Policy both at the Centre as well as the State for encouraging industries in the backward districts. In effect, however, industries are being located in the villages near the large urban centres of these backward districts. These unenvisioned developments as per the Master Plan throw up a number of other related problems.

These developments set off multiplier effect not only in industrial land use, but also a change in other land uses either adjacent or elsewhere as the demand for these consequently arise, especially residential and

commercial land uses and the provision of physical infrastructure and amenities to these scattered development becomes difficult. Industries consume a substantial quantity of water which comes from the same drinking water supply source (both public supply system as well as ground water). This coupled with the rapid growth of Hyderabad's population (with an average growth rate of above 40% per decade) is placing a severe strain on the existing infrastructure, especially water supply. Therefore, there is a need to evolve a viable industrial location policy especially in and around Class-I cities.

URBAN DEVELOPMENT IN SEVENTH PLAN ANDHRA PRADESH

1. Housing

The housing programmes in the State are being implemented by different agencies like the Housing Board, Commissioner, Weaker Sections Housing, Chief Engineer (Bldgs.), Municipal Admn. Department and the Urban Development Authorities. The main thrust of the programmes is construction of houses for sections of community who are weaker economically.

The Housing Board proposes to achieve a target of construction of 6750 dwelling units during the Seventh Plan period. An outlay of Rs. 30 crores is provided in the Seventh Plan.

The main source of finance for social housing scheme is HUDCO. Besides the above housing programme from the plan funds, the Housing Board will be constructing about 16,300 houses with assistance from the HUDCO.

Under Weaker Sections Housing programme it is proposed to construct 7.5 lakh dwelling units during the Seventh Plan period at an estimated cost of Rs. 260 crores.

An outlay of Rs. 15.00 crores for Rental Housing and Rs. 10.00 crores for Police Housing have also been proposed in the Seventh Plan.

2. Urban Water Supply and Sanitation

According to the International Drinking Water Supply and Sanitation Decade (1981-90) Programme of the U.N., to which India is a party, 100% coverage in respect of urban water supply and 80% in respect of urban sewerage and sanitation are envisaged. The State Govt. had prepared a Master Plan and submitted to the Govt. of India in 1982. A total outlay of Rs. 474.61 crores—Rs. 267.26 crores for Water Supply and Rs. 207.35 crores for Sewerage was proposed in the Master Plan to achieve the objectives of the Decade Programme. While the anticipated Sixth Plan expenditure is about Rs. 47 crores, an outlay of Rs. 195 crores is proposed in the Seventh Plan for Urban Water Supply & Sewerage. It has been decided to give priority to low cost sanitation.

3. Urban Development

An outlay of Rs. 148 crores is proposed in the Seventh Plan towards assistance to Urban Development

Authorities and local bodies for provision of civic amenities like roads, sanitation, water supply, street lighting etc.

An innovative scheme implemented during the Sixth Plan period and being continued in the Seventh Plan is 'Integrated Development of Small and Medium Towns'. This is a Centrally-sponsored scheme with 50% loan or Rs. 40 lakhs whichever is less of total estimated cost of the project. The main object of the scheme is to check the growth of big cities and bring about integrated development of small and medium towns by laying greater emphasis on provision of infrastructural and other facilities and thereby equipping them to act as service and growth centres for rural hinterland and at the same time discourage migration to big cities. The Govt. of India allotted 18 towns in the State during the Sixth Plan period. It is expected that 20 more towns would be allotted during the Seventh Plan period.

The State Town & Country Planning Dept. has also taken up preparation of Master Plans for orderly growth and development of towns and cities in the State.

4. Environmental improvement

A major programme for relieving urban poverty under the minimum needs approach is environmental improvement by way of providing water supply, sewerage, road improvement, electrification, better sanitation etc., in the slum areas for the benefit of S.Cs., S.Ts. and other weaker sections of the society. An outlay of Rs. 25 crores is proposed in the State's Seventh Plan.

5. Roads

According to the Perspective for Road Development (2001) prepared by the Chief Engineer (R&B), the requirement of funds is put at Rs. 1750 crores for eliminating deficiencies in the existing road system and for construction of bridges. An outlay of Rs. 121 crores (including Rs. 30 crores for Rural Roads) is provided in the Seventh Plan for Roads & Bridges. This is however expected to be supplemented by provisions under NREP and RLEGP Programmes.

NOTE ON INDUSTRIAL DEVELOPMENT IN ANDHRA PRADESH

Large & Medium Industries

We had 45 Large & Medium Scale industries with an investment of Rs. 48 crores employing about a lakh personnel in 1956, while today we have 504 Medium & Large scale industries with a capital investment of nearly 2695.00 crores providing employment to more than four half lakh persons. These industries cover a wide range of segments like food and agro-based, forest-based, jute-based, textiles, cement and other mineral-based, chemical and other allied industries, engineering and metallurgical, electrical and electronic industries.

In addition to these, there is about Rs. 9543 crores investment in the pipe-line (including Visakhapatnam Steel Plant) covering 919 industrial licences/letters of Intent and DGTD Registrations which are at various stages of implementation which would generate an employment potential of about 1.70 lakhs. In the pipe-line are a number of big plants that will take the State on to new horizons to technological growth.

We have developed 121 Industrial Estates/Industrial Development Areas in the States with 9,962 developed plots and 2,296 constructed sheds. Further, 4,000 houses at different places in the State have been constructed for industrial workers. Total area of about 15,560 acres of land was acquired. Out of which about 9,700 acres has already been utilised for development of Estates. The balance area is stated for development. Further, the A.P. Industrial Infrastructure Corporation proposes to acquire additional area of 8,350 acres of land. The State Government has an ambitious plan to develop infrastructure facilities during VII Five Year Plan period at an estimated cost of about Rs. 266.00 crores at 104 locations in the State. It is envisaged to acquire and develop about 16,450 acres, construct 2,000 worksheds for industrial units and 5,000 houses for industrial workers. The need for creating an agency for monitoring the progress, and to attend to the problems of the projects under implementation was keenly felt for quite sometime. The entrepreneurs obtaining Letter of Intents and DGTD Registrations are likely to encounter several problems while implementing their projects. These problems have to be identified and all the help needed by them has to be rendered in expeditiously obtaining various sanctions/clearances etc., from various agencies. To render these services, a single window agency called "A.P. Assistance Centre for Entrepreneurs (APACE)" was set up during

1983. This agency apart from rendering needed assistance to the entrepreneurs in quick implementation of their projects, also takes up the job of identifying prospective lines, preparation of project profiles, guiding and counselling of prospective entrepreneurs. APACE has so far extended assistance and guidance to as many as 3,344 entrepreneurs.

Village & Small-Scale Industries

The striking contrast in the economic priorities of the developed countries and the under-developed ones is that the former goes in for mass production, while the later aims at greater employment opportunities. In tune with this demographic necessity, we have rightly recognised the need to re-orient our industrial policy towards promotion of more and more small scale, village and cottage industries which have unlimited capacity to absorb our vast human resources. To canalise our human & natural resources, a totally new approach is called for in several areas of our national life and the industries sector is no exception to this. It is against this background, State Government has been actively engaged in the promotion of small-scale, cottage and village industries. The growth of small-scale industries in the State during the past two decades has been quite significant and as of now there are 55,237 small-scale industries in the State with an investment of about Rs. 733.00 crores providing employment to about 5.30 lakh persons. It is proposed to promote about 44,000 village & small-scale industrial units in the State during the VIIth Five Year Plan period with an investment of Rs. 733.00 crores and employment of about 5.5 lakh persons.

Action Plan for Small Scale Industries

For an effective utilisation of resource endowments available in each district and to achieve the objectives envisaged like spread of Industrial Culture, preparation of promising young people to take industry as a gainful avocation, identification of suitable industrial projects, training of entrepreneurs chalking out programmes for the targetted groups like artisans. The District industries have prepared tentative action plans covering the 7th Five Year Plan period. It is proposed to promote as many as 50,000 village and small scale industries during the 7th five year plan providing an employment of 5.5 lakh persons. The District-wise break of the above particulars are shown in Annexure enclosed here.

ANNEXURE

DISTRICTWISE BREAK OF SMALL SCALE INDUSTRIES & INVESTMENT PARTICULARS & EMPLOYMENT IN ANDHRA PRADESH

Sl. No.	Name of the District	No. of units	Investment (Rs. in lakhs)	Employment
1.	Srikakulam	1,668	754.23	14,243
2.	Vizianagaram	1,600	1,050.21	21,101
3.	Visakhapatnam	3,430	3,099.09	28,451
4.	East Godavari	3,229	2,289.03	28,065
5.	West Godavari	2,700	2,341.00	22,281
6.	Krishna	3,634	4,400.51	28,927
7.	Guntur	3,400	7,268.00	20,850
8.	Prakasham	2,210	1,942.51	24,596
9.	Nellore	2,900	2,436.00	20,790
10.	Ananthpur	1,691	1,285.61	18,970
11.	Chittoor	1,664	1,633.33	15,373
12.	Cuddapah	1,830	2,282.05	13,371
13.	Kurnool	1,978	2,443.04	32,789
14.	Mahabubnagar	1,460	2,511.53	10,911
15.	Nalgonda	2,129	1,947.86	15,903
16.	Rangareddy	3,581	28,859.35	55,273
17.	Medak	2,280	3,654.19	20,985
18.	Nizamabad	1,960	1,294.38	28,395
19.	Warangal	2,000	1,203.61	16,599
20.	Karimnagar	2,070	1,280.12	12,143
21.	Khammam	1,800	875.85	12,713
22.	Adilabad	650	546.10	12,154
Total		49,834	13,309.66	5,49,933

FUTURE INDUSTRIAL LOCATIONAL POLICY —SOME THOUGHTS

No substantial progress could be made in most of the districts inspite of having 14 Central Subsidy districts. The benefit accrual for new industries in the Central subsidy districts in the first 5 years of commissioning, as assessed by the economists, will be around 41% of the total cost of the project. The State Government, in addition to the incentives from the Central Government and central financing institutions, has also given the facility of IFST loan calculated at the rate of 10% of the capital cost and also provided 2% tariff concession in power consumption. All these benefits put together contributed to a substantial extent, extending facilities and benefits for the growth of industries. In such a case why some districts only could attract the entrepreneurs while other could not do better and whether the State Government and its extended areas of Development Corporations could do something positive for flow of investment in industry to other districts where the progress was negligible or marginal in the last one decade are the questions that bother the administration.

One possible answer to this question could be that package of incentives which were made universally applicable on area basis instead of basing the package in a graded step, giving the highest package to the most unpreferred areas by the industrialist and a lesser package to areas where the seeds of industrial growth had shown some progress and no incentives to the areas where substantial progress was already made was the main contributing feather. The pattern of assistance given by the Maharashtra Government could serve as a guide in providing graded incentives to different areas.

Even in the less developed districts, the incentives package could further be restricted to select growth centres identified by the Government so that provisions of infrastructural facilities could be made available with lesser cost. The growth centre approach will also help in providing inter-dependent services greatly required by industries with ease and at economic cost.

The State Government has therefore, rightly issued an Industrial Policy Statement while presenting the 1984-85 Budget indicating Srikakulam, Ananthapur and Adilabad Districts as Incentive Industrial Districts and 20 growth centres in the 7 districts of coastal belt and Rangareddy district. Graded incentives as are available under the package of incentives as per G.O. Ms. No. 375 Industries & Commerce (1A) Department dated 23rd August 1985.

The Government Order would provide the following incentives in the shape of;

- (a) Suitable dry land required for the industry upto 50 acres for each industry.
- (b) The industry would be provided the investment subsidy of 15% or the fixed capital investment on Land, Building and Machinery subject to a ceiling of 15 lakhs.
- (c) Power tariff concession upto a period of 5 years.
- (d) Deferred payment of sales tax with an annual ceiling of 30 lakhs upto five years and without interest from the sixth year onwards, payment on instalment in ten years.

In the case of incentives for the growth centres similar facilities have been provided with marginal modifications as detailed below :—

- (a) Investment subsidy of 10% of the fixed capital on Land, Building and Machinery subject to a ceiling of 10 lakhs.
- (b) Concessional power tariff for the initial five years.
- (c) The Sales tax payable by the industry for the initial 5 years upto 15% of the total fixed assets to a maximum of Rs. 1 crore with an annual ceiling of Rs. 30 lakhs would be allowed on deferred payment basis. The total deferred sales-tax would become payable without interest from the 6th year onwards in equated annual instalments in 10 years.

Ancillarisation in Andhra Pradesh

The programme of Development of ancillary industries has attained greater importance in the Industrialisation and in particular in the small scale sector with a view to help growth of Industries not only in an organised way but to bring in more employment possibilities. This would also help the large scale undertakings to produce products/items of more sophisticated nature and products at lesser cost and also to utilise their capacities for research and development.

An ancillary in small scale sector is an undertaking having investment in plant and machinery not exceeding Rs. 45 lakhs and engaged in the manufacture of parts, components, sub-assemblies tooling, intermediates or rendering of services (or proposing to supply or render) 50% of the total production to one or more parent units provided that no such undertaking shall be a subsidiary of or owner or controlled by any other undertaking.

For development of ancillaries to public sector enterprises, Government of India have issued guidelines through Bureau of Public Enterprises and for State undertakings also the State Govt. have issued similar guidelines.

At the State Level, there is a State Ancillary Advisory (Guidance) Committee (reconstituted in G.O. Rt. No. 629, Dt. 3-6-86 with the following members/representatives) to review the progress made in the ancillary development and suggest appropriate action wherever necessary. This Committee is expected to meet once in 6 months, under the chairmanship of Secretary, Industries.

In our State there are 24 Central Undertakings and 15 State undertakings. 18 Central Undertakings and 5 State undertakings have constituted Plan Level Committee, so far, Scope survey has been conducted for 8 Central undertakings and 2 State undertakings. 5 Central and 4 State undertakings have informed no scope for ancillary development.

Major Indus.	No. of undertakings.	Under takings constituted PICs.	Under takings for which scope survey conducted.	No. of takings informed no scope for ancillarisation.	No. of ancillary units promoted.	No. of major industries which promoted ancillaries.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Central sector Projects.	24	18	8	4	122	11
State sector projects.	15	6	2	4	67	4

Future scope of Ancillary Development in the State :

The Public Sector projects which are under implementation in the State like Visakhapatnam Steel Plant, Ordnance Factory, Carriage Repair Workshop, Midhani (Further phases), Allwyn Nissan Limited, for

Light Commercial Vehicles, A.P. Scooters Limited for scooters and mopeds, APHMEI for road headers/tunneling equipments/conveying equipments, etc., and large and medium industries under various stages of implementation/awaiting implementation would offer good scope for ancillary development in the State.

NOTE AND INFORMATION ON HEALTH AND MEDICAL ASPECTS IN ANDHRA PRADESH

I. General overview on the health and medical facilities in urban areas :

- There are 220 Govt. Hospitals in Urban Areas and 113 Govt. Hospitals in the rural areas of Andhra Pradesh. Of these, 283 are General Hospitals and 50 are Special Hospitals, 39 of which are located in urban areas.
- There are 21,280 beds in Government Hospitals in urban areas and 2076 beds in rural areas of Andhra Pradesh. The Bed-population ratio for urban areas is 170 beds per lakh of population, while for the State it works out to about 47 beds per lakh of population.
- There are 36 Dispensaries in urban areas and 83 in rural areas. There are 905 Primary Health Centres in rural areas of Andhra Pradesh.

II. Extent of available health facilities to various categories of people in the urban areas :

- The Doctor ---Population Ratio for A.P. is 1 : 11, 202
- The Nurse ---Population Ratio for A.P. is 1 : 11,780
- The Nurse ---Bed Ratio is 1 : 5.4

5. (a) Birth Rate in Urban Areas :

1977	27.7	Births per thousand population
1978	28.6	Do.
1984	29.7	Do.

(b) Death Rate in Urban Areas :

1977	8.0	Deaths per thousand population.
1978	8.8	Do.
1984	8.4	Do.

(c) Infant Mortality Rate in Urban Areas :

1977	61.6	deaths per 1000 live births
1978	53.4	Do.
1984	68.0	Do.

6. Indigenous system of Health Care Facilities:

(a) Ayurveda —There are 1325 Govt. Hospitals and Dispensaries in the State: 1418 Doctors/Medical Officers in this system of Medicine and 43,50,248 patients were treated (as per 1978-79 figures).

in this system of Medicine, and 18,03,041 patients were treated (1978-79).

(b) Homoeopathy —There are 113 Hospitals and Dispensaries in the State: 187 Doctors

(c) Unani —There are 133 hospitals and dispensaries in the State: 187 Doctors in this system of Medicine, and 36,30,787 patients were treated (1978-79).

7. Incidence of Diseases, Injuries and Accidents : (State-wise data for 1982)

	Indoor patients	Outdoor Patients.	Deaths.
(a) Incentive and parasitic Diseases.	1,89,894	43,15,082	4,630
(b) Endocrine, Nutritional & Metabolic Diseases.	62,153	21,96,562	478
(c) Diseases of Nervous system and Sense Organs.	1,34,061	43,77,431	1,007
(d) Diseases of Circulatory system.	40,838	5 45,530	2,625
(e) Diseases of Digestive system.	50,440	19,50,416	820
(f) Diseases of Urinary system.	27,725	4,38,900	209
(g) Complications of Pregnancy and Child Birth and Puerperium.	1,34,858	3 64,793	458
(h) Diseases of Skin and Subcutaneous Tissue.	18,949	18,25,122	20
(i) Diseases of Musculoskeletal system & connected Tissues.	11,706	5,06,867	10
(j) Congenital Anamolies.	2,939	13,236	63
(k) Certain causes of Perinatal Morbidity and Mortality	7,508	84,459	175
(l) Symptomatic and ill defined conditions.	15,307	4,46,443	356
(m) Accidents, Poisoning and Violence (external causes)	56,737	6,44,873	1,492
(n) Injuries.	44,791	6,47,794	1,202
(o) Neaplasma.	22,962	2,42,613	415
STATE TOTAL EXCLUDING INTERNAL CAUSE OF INJURY	8,50,830	2,08,49,181	13,563

8. Incidence of Malaria, TB, Leprosy, Filariæ, Blindness:—

(State-wise Data for 1982)

	Indoor patients	Outdoor patients	Deaths
(a) Leprosy	2,444	93,289	13
(b) Malaria	6,578	1,60,292	26
(c) Tuberculosis	35,320	1,69,499	1,637
(d) Filariæ.	2,466	94,251	10
(e) Blindness	NA		

9. Medical Institutions (Other than Government) in Andhra Pradesh : (As per 1971 Census)

Over 12,000 Census houses are used as medical institutions in Andhra Pradesh States, giving a rate of 11.5 houses per ten thousand occupied census houses. The largest proportion of census houses used as medical institutions are found in Hyderabad district (26.4 census houses used as medical institutions per ten thousand census houses) followed by Krishna 16.6 per 10,000 census houses and West Godavari District (15.4). The least is found in Srikakulam district (6.4). The other districts where the ratio of such census houses is less than either are, Karimnagar, Adilabad, Srikakulam and Visakhapatnam.

(Note submitted by Deputy Secretary (Planning), Directorate of Health Services, Andhra Pradesh).

III. Problems/Constraints

(i) Financial

The Municipal Corporations/Municipalities are required to spend on the provision of Medl./Health facilities and some of the municipalities are doing this. From the State side Hospitals and Preventive Programmes are being launched in consonance with the Policy of the State Government and also within the frame work of guidelines given by the Government of India in so far as the centrally assisted programme.

(ii) Manpower

At present there is no shortage of Medical or para-medical power. There are 9 medical colleges 9 nursing schools, training

facilities and laborator, X-Ray and sanitary courses.

(iii) *Infrastructural :*

There is no deficiencies in so far as the basic facilities required for functional buildings either Hospitals, or teaching institutions. The requirement of facilities for expansion activities are being provided in a phased manner.

(iv) *Medicine Laboratories :*

These are attached to the Medical Institutions and are available to the minimum requirements. There is a separate institute of Private Medicine Stationed at Hyderabad for cross-check of Water samples, Food Samples, Diet Samples, from Government Medical Institutions and food analysis required under the Prevention of Food Adulteration Act. There are Regional Laboratories attached to the Medical Colleges.

IV. *Action taken by the Government/Admn. in reference to Alma Alta declaration of 1977 viz., providing health for all by 2000 A.D.*

Emphasis is laid on reduction on in fact Mortality Rate and other Mortality rates; increased life expectancy at Birth, effective couple production; reduction in the family size; immunisation status by larger percentage of coverage of Women and Children; arresting of Leprosy cases,

T.B. cases and prevention of Blindness. Intensive primary Health Care has been launched. By establishing more institutions in the rural areas, viz., subcentres to cater at the rate of 1 per 5000 population in plain areas and 3000 population in Tribal areas; Primary Health Centres at the rate of 1 per 30,000 to 50,000 population and at the rate of 1 per 20,000 population in tribal areas.

Increased facilities and involvement of voluntary agencies are arranged in Family Welfare Programme. Universal immunisation programme is taken up by covering 2 to 3 districts in a year and a gradual step up is given. Similarly, Multi-drug regement therapy is started at the rate of 2 to 3 districts in a year multiplying them into coverage of whole stage at that rate. A National Programme for Control of Blindness sponsored by the Government of India is being implemented by the State covering atleast 1 lakh cataract operations and incidental treatment facilities to reduce the incidence on percentage of Blindness. Facilities in respect of Medical care are being expanded by increase of bed strength specialists and super-specialities.

V. *Health Plan strategy for Urbanisation in 2001, 2025.*

- Explanation of infrastructural facilities.
- Preventive measures.
- Education and Training.

The Health Plan strategy beyond 2000 AD is not yet shaped.

NOTE ON TRANSPORTATION IN URBAN AREA OF ANDHRA PRADESH

INTRODUCTION

1.1 General :

Basic facilities and means of communication are the pre-requisites of Economic development. Therefore, the transport development is an indicator of economic prosperity. The system of communication is as essential for the growth of an area as the blood arteries for the human body. Any part of the area which lacks proper communication system suffers or deteriorates like the part of human body which is not well served by proper blood circulation system. The efficiency of transportation primarily depends upon the efficiency of the transportation systems of a city or a region or the State as a whole.

1.2 Andhra Pradesh State

Andhra Pradesh State was constituted on first November, 1956 under the State Re-organisation Act, 1956. It is situated in a tropical region between 13°N to 20°N and 77°E to 85°E. It is bound on the east by the Bay of Bengal, on the north-east by Orissa and Madhya Pradesh, on the north by Maharashtra, on the west by Mysore and in the south by Tamilnadu state. Andhra Pradesh is the fifth largest state in the Indian Union with an

area of 2,75,281 sq. kms accounting for 8.4% of the total geographical area of the country.

Physiographically, the State can be divided into three economic regions, namely :

- (1) Coastal Andhra, (2) Rayalaseema, and (3) Telangana. The coastal Andhra consists of nine districts, Rayalaseema consists of four districts where as Telangana region is comprised of ten districts.

Andhra Pradesh State is well served by road, rail, air and waterways. The Railway route mileage in the State is 6,224 kms. consisting of 3,834 kms. of Broad-Guage 2,353 kms. of meter-guage and 37 kms. of narrow guage.

The roadway mileage in the State is more than one lakh kilometers consisting of 2,353 kms. of National highways, 8,714 kms. of State highways, 22,041 kms. of major roads, 1,513 kms. of other District roads and more than 70,000 kms. of village roads.

HYDERABAD, the capital city of Andhra Pradesh State is connected to all the metropolitan cities of India and also plying International flights to Jeddah,

Dehnan and Dubai. In near future it is going to be developed into an International Airport. In addition, Visakhapatnam, Vijayawada and Tirupathi are also major airports in Andhra Pradesh. Recently, through Vayudoot Service a second string of Air Network is built linking major cities like Rajamundry, Kurnool, Cuddapah etc. Thus, it can be said that, a well distributed hierarchial Air network linkage is available in the State. The State is having major ports at Visakhapatnam Machilipatnam and Kakinada. Of which Visakhapatnam is one of the five major ports in India, having a Natural land locked Harbour, serving the vast hinterland of Andhra Pradesh, Madhya Pradesh and Orissa. It is a major exporting centre for iron ore to Japan and importing centre for food, fertilisers and machinery for the distribution in the hinterland. Kakinada and Machilipatnam are other major ports, acting as feeder ports to Madras, Visakhapatnam and Calcutta through which major cargo movement within the country takes place.

Further, the Coastal Andhra region, having rivers like Godavari, Krishna with numerous canals has potential to develop into Inland waterways which will be useful in shifting from this highly developed agricultural basin to major market centres.

1.3 Report organisation

In the Chapter II, the Intracity and Intercity movements of the major cities of Andhra Pradesh are discussed. The situation of Hyderabad city transport system is presented in the Chapter III.

In the Chapter IV, the present transportation problems the travel characteristics and the requirements are discussed with specific recommendations. The future transportation services is presented in the Chapter V.

Chapter VI deals with the financial constraints and agency wise expenditure and phasing.

TRANSPORTATION IN THE MAJOR CITIES OF ANDHRA PRADESH

INTRODUCTION

Like any city in the country, the major cities in Andhra Pradesh state experienced a tremendous increase of population due to rapid urbanisation. The population in the years 1971 and 1981 of major cities of Andhra Pradesh are listed below.

	1971	1981
1. Hyderabad	20,12,485	25,45,836
2. Visakhapatnam	3,04,184	5,84,166
3. Vijayawada	3,85,467	5,43,008
4. Guntur	2,78,980	3,67,699
5. Warangal	2,07,520	3,60,650
6. Rajamundry	1,65,900	2,68,370
7. Nellore	1,33,570	2,37,065
8. Kakinada	1,52,960	2,26,409
9. Machilipatnam	1,22,881	1,38,530
10. Tirupathi	65,873	1,23,897
11. Ongole	53,330	85,302

There is also steady growth in the number of motor vehicles for the last one decade in the State. The year-wise increase in vehicular population from 1961 to 1986 is presented in the table No. 2.1. Also, the mode-wise break up of number of vehicles for the above major cities are given in the table No. 2.2 for the year 1986. The intracity and intercity transport facilities existing for these cities are discussed in this chapter.

2.1 HYDERABAD

2.1.1 General

Hyderabad, like other Metropolitan cities of India has experienced tremendous population growth between the years 1901 and 1981, because of rapid industrialisation and urbanisation. The population increase from 4.5 lakhs in 1901 to 25 lakhs in 1981. It is the sixth largest city according to Census, 1981. This rapid growth in population created manifold, regional impact both in passenger and commodity flows. It is connected to other metropolitan cities of the country by road, rail and air. In its own regional territory, the travel is mostly by buses because of inadequate rail network and inefficiency of operation.

2.1.2 Available means of Transport

A. Intercity Transport

1. Roads

The city has the main arterial roads connecting different parts of the city and converging to the centre of the city to form a radial pattern of network. The traffic on these roads is of heterogeneous nature ranging from bullock carts to heavy trucks.

The proportion of slow moving vehicles varies between 20% to 70% of the total traffic depending upon locality. This high proportion of slow moving traffic is posing severe restriction to the fast moving traffic. The roads built for light and slow traffic of the past do not meet the requirements of the present day traffic resulting in bottle-necks to free flow of traffic.

The main modes of Road transport in the city are presented below.

- | | | |
|-----------------|------------------------|-----------------------|
| A. Manual : | (a) Animal drawn carts | |
| | (b) Hand drawn carts | |
| | (c) Bicycles | |
| | (d) Cycle rickshaws. | |
| B. Mechanical : | (a) Stage carriages | (i) APSRTC |
| | | (ii) Private. |
| | (b) Goods vehicles | (i) Public carriers |
| | | (ii) Private carriers |
| | (c) Contract carriages | (i) Buses |
| | | (ii) Taxi cabs |
| | | (iii) Autorickshaws. |
| | (d) Tractor trailers. | |
| | (e) Non-transport | (i) Motor cars |
| | | (ii) Jeeps |
| | | (iii) Omni Buses |
| | | (iv) Motor cycles. |
| | | (v) Others |

C. Electrical : Nil

TABLE 2.1

YEAR-WISE INCREASE IN POPULATION OF VEHICLES

Sl. No.	Year on 31st Mar. of every year	Stage carriage		Goods vehicles		Taxi cabs & contract carriages		Motor Cars and Jeeps		Motor cycles including Scooters		Others		Total	
		On roll	On road	Public	Private	On roll	On road	On roll	On road	On roll	On road	On roll	On road	On roll	On road
1.	1961-62	5,503	3,883	10,645	7,075	525	416	21,187	16,050	6,561	4,081	3,482	1,524	47,903	31,534
2.	1962-63	6,041	631	12,239	8,243	801	717	23,226	16,295	8,152	6,092	4,423	1,688	54,883	35,566
3.	1963-64	6,092	3,561	12,686	9,036	1,094	1,087	24,092	17,402	9,650	6,635	5,118	2,009	58,732	39,750
4.	1964-65	6,613	5,665	13,986	10,099	1,255	1,255	25,863	18,042	10,972	8,080	5,776	1,757	64,465	42,743
5.	1965-66	6,631	3,942	15,304	10,533	1,431	1,236	27,046	18,528	13,365	9,392	6,303	1,616	70,080	45,249
6.	1966-67	6,749	4,143	17,084	12,495	1,481	1,158	30,316	18,979	16,869	13,108	6,967	2,685	79,466	52,868
7.	1967-68	7,043	3,342	16,950	12,509	1,832	1,460	31,141	19,203	20,290	14,203	8,089	3,872	85,295	54,589
8.	1968-69	7,150	4,841	18,588	13,774	2,487	2,101	30,959	20,692	21,644	19,887	7,834	5,600	94,970	66,935
9.	1969-70	5,396	4,774	17,149	14,361	2,990	2,534	38,963	25,259	32,446	24,347	6,613	3,225	103,557	74,500
10.	1970-71	6,011	5,069	16,035	13,899	3,436	2,981	39,780	20,384	35,179	30,172	7,582	5,905	108,023	77,500
11.	1971-72	6,830	5,298	19,312	15,659	4,692	4,278	32,014	27,819	42,082	37,684	8,141	5,753	103,071	96,491
12.	1972-73	6,641	5,559	19,307	15,799	4,499	4,004	37,282	33,253	47,142	41,099	7,141	4,276	122,012	105,990
13.	1973-74	6,002	5,192	21,287	17,949	5,611	4,944	35,921	27,515	56,404	48,128	8,736	4,156	134,361	107,884
14.	1974-75	8,172	7,060	22,633	18,344	6,549	5,783	37,488	32,349	65,040	54,203	10,403	8,488	151,185	126,227
15.	1975-76	8,717	8,661	23,381	19,330	6,674	5,563	38,106	33,943	70,300	60,108	13,368	11,266	160,246	138,871
16.	1976-77	9,543	9,163	24,103	20,331	16,458	5,458	35,117	28,994	76,882	68,484	14,068	11,456	166,171	145,392
17.	1977-78	7,626	7,356	26,251	23,484	11,098	9,843	39,093	29,706	107,455	97,037	18,003	16,873	109,531	175,349
18.	1978-79	8,594	7,868	29,513	27,018	5,583	4,941	36,623	33,171	124,850	118,025	37,443	26,307	242,614	216,876
19.	1979-80	8,535	8,188	31,584	29,506	5,012	4,474	42,090	39,600	130,081	124,706	541	168	218,643	212,390
20.	1980-81	8,923	8,690	35,642	33,886	4,649	3,853	59,068	46,482	155,519	147,969	32,017	29,717	295,818	270,597
21.	1981-82	11,074	10,156	38,411	36,605	4,506	3,885	46,778	41,224	188,043	170,040	33,339	30,123	321,751	292,033
22.	1982-83	9,391	9,391	42,945	39,862	3,717	3,174	47,049	40,675	220,695	197,251	36,700	34,070	360,916	324,838
23.	1983-84	10,237	9,851	53,798	50,205	3,353	1,302	61,250	54,813	336,045	312,895	32,905	29,054	517,842	478,465
24.	1984-85	10,748	10,282	54,985	52,750	4,858	4,523	64,093	48,315	395,972	368,546	33,462	31,141	561,118	515,557
25.	1985-86	16,587	11,176	55,344	54,496	5,507	5,987	64,173	54,383	505,760	462,892	58,765	56,211	707,136	643,141

TABLE 2.2

MODE-WISE BREAK UP OF VEHICLES IN THE MAJOR CITIES OF ANDHRA PRADESH FOR THE YEAR 1986

Name of the City	Stage carriages		Goods vehicles					Tax cabs				Auto rick.	Car	Jeep	Tractor/ trailer	M.C./ Scooter	Mini Buses	Total
	APRTC		Public carriers		3-wheelers		7-seater	6-seater	5-seater	Big Bus								
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17		
Hyderabad	978	58	13329	1203	—	—	537	—	387	12092	21932	4952	36	154365	610	210479		
Visakhapatnam	343	139	3104	—	—	19	—	410	98	1586	2770	518	553	28045	195	37780		
Vijayawada	590	259	9601	214	—	—	45	641	281	420	4427	520	2396	39269	125	58788		
Guntur	677	144	3251	14	—	67	253	—	—	455	2032	493	2350	15390	39	35165		
Warangal	338	44	723	61	25	25	8	—	33	408	477	391	989	11950	42	15514		
Rajahmundry	230	24	1200	67	15	71	33	24	24	50	1205	175	1331	16057	7	20689		
Nellore	143	389	1193	43	24	57	24	13	136	742	304	1320	5362	3	9753			
Kakinada	225	29	1053	48	15	79	42	28	24	758	202	1198	12895	6	16602			
Tirupathi	741	233	2096	65	3	106	45	3	85	455	2032	493	2350	15390	70	24167		
Ongole	216	250	708	22	—	12	5	—	—	8	125	65	—	4454	13	587		

Note : The above figures correspond to the vehicles plying on the roads.

2. Rail

In the Hyderabad, Secunderabad area, there is a regular suburban service on the meter gauge between Medchal on Manmad line and Umdanagar on Bangalore line. This is run with modified old conventional coaches hauled by Diesel locomotives.

B. Intercity Transport

1. Roads

Passenger

Hyderabad city has nationalised transport system since 1937 and was one of the earliest in the country. As it is the Capital and only metropolitan city of Andhra Pradesh State, it attracts trips not only from the major cities and towns of the state but also from other states like Maharashtra, Karnataka, Tamilnadu etc.

The Corporation known as APSRTC (Andhra Pradesh State Road Transport Corporation) came into being in 1958. Previously in Hyderabad, there was only one Bus terminal located at Gowliguda known as Central Bus station. Another Bus terminal, as a response to the suggestion by the Hyderabad Area Transportation Study Consultant, is located at Picket and started functioning from April, 86.

Goods

The Principle role in intercity transport of goods is of transport enterprises. High truck traffic plies on the four National highways that pass through the city connect the following metropolitan cities of India.

- (i) On the eastern side to Madras and Calcutta.
- (ii) on the western side to Bombay.
- (iii) on the southern side to Bangalore.

(iv) on the northern side to Nagpur and Delhi. Besides, they touch a number of District Head quarters of the state like Vijayawada, Guntur, Visakhapatnam, Ongole, Kurnool, Nizamabad, Adilabad etc.

2. Rail

The city is connected by rail all the major cities in India i.e., Bombay, Delhi, Madras and Bangalore. Except for Bangalore, the connection is by Broad-gauge railway line.

2.2 VISAKHAPATNAM

2.2.1 General

Visakhapatnam town also known as Vizagpatnam or Vizag is situated (Lat. 17.42°N and Long 83.2°E) along the shore of a wide bay five miles along the Bay of Bengal in a picturesque amphitheatre of hills. It is situated half way between Madras and Calcutta, at a distance of about 1000 miles, along the east coast, is one of the five major ports in India having a Natural Land Locked Harbour, serving the vast resourceful hinterland of Andhra Pradesh, Madhya Pradesh and Orissa. The city has an important railway junction and is an important Industrial and educational centre of the Andhra Pradesh State. Visakhapatnam can be rightly considered as a transportation

centre also, with all modes of Transport namely road rail, sea and air.

2.2.2 Intracity Transport

Roads

The road pattern in Visakhapatnam dictated by uneven topography, can never be part of any integral rigid pattern. From the traffic studies it is observed that the cycles and cycle-rickshaws constituted 76% of the total volume. The fast moving vehicles constituted only 22% of which taxis and cars formed 8.5%, buses and lorries 7% and motor cycles and scooters 6.5%. The juxtaposition of fast and slow moving vehicles and pedestrians caused the congestion and traffic bottle-necks.

The highest number of vehicles passes through the town main road because of the fact that the major commercial shopping is concentrated on its either side. The traffic from all roads converges into the town main road.

The industrial traffic on south-west direction of the town passes through the Port trust road and takes respective turns at Food godowns near Eastern Art Museum.

Nearly 75% of the pedestrians walk right on the roads as there are no adequate pavements. There are no sufficient and efficiently organised public parking spaces anywhere in the town. For Visakhapatnam, city bus service is the only means of mass transportation. There are 24 various bus routes in the town. All the 235 city buses pass through the heart of the town connecting the Town main road which is the busiest functional part of the town.

2.2.3. Intercity Transport

Roads

The town is connected to the Regional network by three main roads namely the G.N.T. road in the south-west towards Anakapally, and in the easternly direction towards Bhimunipatnam—Vijayanagaram and the Simhachalan road to Araku towards north-west.

Railways

Visakhapatnam has rail services to Howrah, Madras Hyderabad and Raipur. Daily it caters for about 1,800 incoming and 2000 outgoing passengers on average. It is observed that the goods traffic is increasing year by year. Most of the imported goods are for distribution in the town and hinterland while agricultural produce of the surrounding districts and industrial products of the towns are exported.

The Waltair yard on the south-eastern railway is the interchanging point between the South Central and South-eastern Railways and also serves the Visakhapatnam port which has an ambitious development programme.

As a result of the agreement between the Governments of India and Japan to export 6 million tons of Iron ore per year, a separate railway link from the Ore mines in Madhya Pradesh and Orissa states to Visakhapatnam was commissioned.

Airways

Visakhapatnam has an airstrip open on 1946 linking to Hyderabad, Madras and Calcutta. At present there are regular service connections to Calcutta and Hyderabad, 5 times a week by avro-planes.

Port

The port serves a vast hinterland comprising of Andhra Pradesh, Madhya Pradesh and Orissa states. Visakhapatnam port exports agricultural produces and imports are industrial produces. It is well linked up with Railway network. Besides Madras-Waltair-Calcutta Coastal railway line which serves the northern and southern areas, there is north-western railway line connecting Calcutta-Bombay line. Also it is well connected with National highways and other arterial roads.

The traffic volumes doubled from 1940 to 1950, trebled from 1950 to 1960 and in 1970 four times of that of in 1960. The total tonnage hauled in 1970 was 10 million tons.

2.3 VIJAYAWADA

2.3.1 General

Vijayawada is located on the northern banks of the River Krishna, at lat : 16°-31' N & Long : 80°-37' E at the foot of a low range of hills. It is at the junction of the high roads from Madras to Calcutta and from Hyderabad to Machilipatnam. As a commercial centre Vijayawada stands next to Hyderabad in Andhra Pradesh and it stands next to Hyderabad and Visakhapatnam in industrialisation. It is well connected by an excellent network of highways, roads, railways and canals.

2.3.2 Intracity transport

The Old town and the new town have distinct characteristics in the circulation patterns. The old town being centuries old, due to systematic encroachments at the time of building and re-building, the roads have become zig-zag with varying widths. The entire width of the roads does not exceed 30 ft. at any point and at certain locations, it is only about 20 ft. wide. Pedestrian and slow moving traffic is enormous.

The New city was deliberately planned from the beginning and therefore there is some order in it. The roads are fully wide. Still the shopping centres and streets which came out of the residential frontages have become extremely overcrowded and at peak hours in most of the shopping streets one-way traffic system is being enforced.

The greatest drawback in the transport system of Vijayawada is the lack of proper connection between the new and old towns. The National highway which passes through the Railway under bridge is the only connection between them. The peak hour traffic in several parts of the National highway running within the town exceeds 2000 vehicles per hour. Congestion on these roads is due to the high percentage of slow moving vehicles i.e. 70% of the total traffic.

Vijayawada has city bus service which connects various parts of the town and the surrounding villages. Through at present it is well served by mass transit facilities, the location of the present bus terminus is causing much congestion at that area.

2.3.3 Intercity transport

Roads

The National highway which connects Madras with Calcutta passes right through the heart of the city. Right through the course of this National highway many important towns of Andhra Pradesh are located from the southern to the northern boundary of the State. The Hyderabad-Machilipatnam road is another State highway serving Vijayawada.

Vijayawada, next to Hyderabad city, is well served by several Bus-routes and the bus terminals at Vijayawada is one of the biggest in the State. The maximum number of buses from Vijayawada Bus terminus ply between Vijayawada-Guntur, Machilipatnam, Gudivada, Bhimavaram Eluru and Jaggaiahpat. From Vijayawada Bus Depot alone 198 buses are daily going to other places. From other depots, in the state 58 buses go to Vijayawada or pass through it to other destinations. The no. of buses required on 2001 will be 400.

Railways

Next to Madras, Vijayawada is the important railway junction in South India and one of the most important junctions in India. Vijayawada junction is directly connected with Madras, Calcutta, Goa, Bangalore, Hyderabad, Delhi by Express trains. It is the most important transshipping yard for goods from meter gauge to Broad gauge. The towns in West Godavari District and Gidivada, Machilipatnam in Krishna District and Tenali and Guntur towns of Guntur District are well connected by frequent train services from Vijayawada. In a way next to Hyderabad, Vijayawada is the commercial capital of Andhra Pradesh and it well connected by Rail and Road to almost all important cities in India.

Canals

When the roads and rail transport were not fully developed the canals under the Krishna and Godavari anicut Irrigation systems were serving as the main means of Transport of goods and people. As soon as Vijayawada was connected by the Railway in the year 1900, and with the development of road transport system and with the increase in the mileage of roads in the Krishna Delta, the prosperity of the inland navigation have got stagnated.

Vijayawada has three canal wharfs and the navigable canals are used only 11 months in a year. And it is observed that Vijayawada is serving the hinterland through canals more than it is served by them. The following types of goods are imported at the wharfs at Vijayawada. (i) Rice (ii) Timber (iii) Coconuts (iv) Pulses (v) Vegetables (vi) Fruits (vii) Firewood (viii) Coal and (ix) Salt.

Airway

The Airport is located at a distance of 13 kilometres north-east of Vijayawada and abutts the National highway on the western side and Eluru Canal on the east. At present the Airport is used by Civil Aviation Department. The Hyderabad-Visakhapatnam service halts at this Airport.

2.4 GUNTUR

2.4.1 General

Guntur lies on $-6^{\circ}.18'$ north latitude and $80^{\circ}.29'$ east longitude on the Globe. It lies about 6 miles to the east of Kondaveedu range of hills. The G.N.T. road connecting Calcutta and Madras is passing through the heart of the town. The meter gauge railway line from Guntur to Marmagao which was running right across Deccan is also running through the heart of the town. The portion of this railway line from Masulipatnam to Guntur had been converted in broad gauge twenty years back. The Broad gauge railway line starting from Repalle situated towards the east coast intersects the Madras-Calcutta Railway line at Tenali and terminates at Guntur thus forming a railway junction with meter gauge. Further, there is a meter gauge railway line to Macherla via Gurajala from Guntur;

The city of Guntur is well connected by an excellent network of highways, roads and railways to most of the places in the State and also outside the State. It has been a District Head quarters of the District from a long time and hence a commercial centre.

2.4.2 Intracity transport

Roads

Guntur city is divided into two parts by the railway lines. The terrain being uniformly levelled which has no natural physical barriers, like hills, rivers, canals etc., no special problems are encountered in establishing a suitable circulation pattern between various parts of the town. The city is having a ring road 200' wide around Bradipet which was given rise to development of good residential colonies in the area surrounded by it. The two parts of the city are well connected with an over bridge, a sub-way and level crossing over the meter gauge lines.

As in the case of any city in the state, the slow moving vehicles form more than 50% of the total traffic thus leading to acute traffic congestion. It is observed that all fast vehicles are also on increase.

Guntur is well served by several road transport corporation bus routes and the Bus terminus at Guntur is the biggest in the region. In addition, Guntur has 14 Bus services (City) which connect various parts of the town and surrounding villages.

2.4.3 Intercity movement

Railways

At present Guntur has a Railway junction having both meter gauge and Broad gauge passing through.

7—464 NCU/89

There are two railway bridges connecting Guntur with Vijayawada. Guntur is connected to all Taluq head quarters towns in the District and also with Kurnool, Bangalore and Goa on the west and Vijayawada on the east. Through Vijayawada all the important cities are connected. Few years back one loop line is formed to connect the stations of Vejedla in Guntur-Tenali section and Tsundur on the south of Tenali on the main line to divert some of the Express trains going to Madras from Vijayawada through Guntur to give a direct connection and also relieve the over-worked line between Vijayawada and Tenali.

Daily more than 7000 persons are coming to Guntur by trains and a similar number of persons leaving by trains and about 120 tonnes of materials are exported and 350 tonnes of materials are imported at Guntur Railway goods shed per day.

Roadways

The National Highway which connects Madras with Calcutta passes right through the core of Guntur town. Through the course of this National highway many important towns of Andhra Pradesh are located from southern to the northern limits of the State and thus have a direct connection with Guntur.

The Guntur-Hyderabad road is an important state highway serving as feeder road to Nagarjunasagar Dam site. Guntur is connected to Tenali, Ponnur, Elukur and Amaravathi by major districts roads. All these districts roads serve as the feeder roads of Guntur in respect of agricultural produce to be transported through Guntur.

2.5 WARANGAL

2.5.1 General

The original old city was situated at the present site of Warangal fort. But it started growing towards the north of the Fort. Urus, Karimabad, Matwada, Hanamkonda, Kazipet etc., developed fast and were merged in Warangal in the year 1931. Then onwards Warangal city is a rapidly expanding town in the Telangana region of Andhra Pradesh state. The population increased tremendously from 2,07,520 in 1971 to 3,60,650 in 1981. Average annual growth of population is 7.4%. It is bound to grow much more, as the Government proposals to establish industries with a view to improve the economic prosperity of the region surrounding the city are materialised. The Railways propose to establish a heavy industry at Kazipet that is expected to generate considerable employment potential and create ancillary industries. Besides the Kakatiya University, professional institutions such as Engineering and Medicine and other educational institutions attract a large number of students not only from the surrounding region but also throughout the country. The agricultural production has increased manifold making Warangal as the hub of the agricultural business catering for the entire country. With these contemplated growth of economic activities, the population is expected to explode during next ten years to come.

2.5.2 Master Plan for Warangal city

Realising the potential scope of development of the Warangal city the Government of Andhra Pradesh has prepared a Master plan for the balanced growth of the city providing all infrastructural facilities for the proposed industrial locations, Service centres and residential locations. However, this Master plan was prepared based on accepted practices and procedures currently in vogue. Much stress was laid on the population distribution the location of industries but their interaction through network was only a logical conclusion rather than qualitative analysis.

2.5.3 Present Transport facilities

The city assumed a ribbon like appearance from Warangal fort to Kazipet. New districts like Kakatiya University Waddepally etc. are added recently.

Kazipet derives its importance from the Railway junction of Delhi-Madras and Hyderabad routes. Railway workshops and Regional Engineering College are located in Kazipet only. Hanamkonda is centre for administration since most of Government offices are located there. Matwada region derives its importance due to business area of Warangal which includes the chief business centre. Small scale industries and Azam Zahi Textile mills. All these important centres are connected along only one arterial which extends from Warangal to Kazipet through Hanamkonda covering a distance of 15 kms. There is no other major arterial road existing.

2.6 RAJAHMUNDRY

2.6.1 General

The Urban centre of Rajahmundry extends its sphere of influence over a vast area, as a result of which the city is developing rapidly. This city has an advantage of having adequate means of transport not only by rail and road but also by river to many important places. Because of its transport facilities, it enjoys prominence as a business centre for east and west Godavari Districts. Ever since the location of Andhra Paper Mills, the stone ware factory, the tobacco business run by I.L.T.O., the Aluminium industry and Integrated saw mill scheme the city has developed into a major commercial and industrial centre of the State.

2.6.2 Intercity transport

Roads

The National Highway-5 connecting Madras and Calcutta is used to pass through Rajahmundry. Many of the class-I towns of the State lie on this N.H. The N. H. 5 is diverted to serve the Godavari central delta also by providing two bridges on the branches of Godavari at Siddanatham and Almur. With the completion of the diversion, the N.H. 5 is now by passing the city centre and running parallel to the city on the eastern side. In addition to this diversion N.H. 5, one more road connection has come up in the shape of Rail-cum-road bridge and one more is coming up with construction of Godavari barrage. With the addition of these direct links the importance has increased rapidly and also consequent to the increase in area of

the region depending on Rajahmundry town with the construction of these bridges with Central delta, bus connections to these places are available and boat carrying passengers are reduced.

The road from Rajahmundry to Kakinada via Samarlakot is a State highway. There is one more connection between these two major towns via Ramachandrapuram which is taking off from the State highway near Dwarapudi.

There is one more major road serving northern portion of Rajahmundry taluq called Rajahmundry—China kondapudi road Seetanagaram on the way.

Rail

This town was linked by rail first with Waltair and with the completion of first rail bridge it was connected with Vijayawada on the south. The growth of the town has been influenced by the railway line which has two station in the town. Though the route is added with rail-cum-road bridge, as the old bridge is very old, one more bridge with double track is coming up.

On an average, daily more than 7000 persons come by train to the town while 7600 leave by train from town. The quantities of goods exported from Rajahmundry by rail are more than those imported by rail. The goods exported being Rice, Chelam, Tobacco, Fireclay, Dry coconuts, Aluminium ware, Crucibles and the imported goods being Cement, limestone, Iron, fertilizers, gramdhal, Coal, wooden pulp, ground nut tar.

Waterways

The River Godavari is used for navigation purposes also. Most of the central delta is served by navigation by canals. Boats with passenger services are available from this town to Bobbarlanka, Badrachalam, Razole, Amalapuram Mukteshwaram and Polavaram.

In addition to passenger traffic most of the goods are also transported by Canals and rivers. All the timber comes through Godavari River to Rajahmundry. The agriculture produce from central delta comes by Canals. Goods of around 2 lakh tonnes are handled by this river transport. The predominant commodities moved by boats are stone, metal, gravel, sand, paddy at Doweleshwaram. Rice timber, coconuts, firewood, bamboos, tamarind, Iron and chillies are moved by boats at Rajahmundry west.

2.6.3 Intercity transport

The total length of roads is 122 kms. The total length by surface wise are shown below :

1. Cement concrete	.. 18.80 kms.
2. Block topped	.. 48.82 kms.
3. Metalled	.. 15.90 kms.
4. Unmetalled	.. 40.05 kms.

In addition to these length of 2.87 kms. of N.H. 5 and 2.21 kms. of Yokavaram road are being maintained by R & B. Generally, the roads in the town

towards the north of the Railway line from Godavari station are fairly wide while the rest of the roads in the Municipal limits including the main bazar road are very narrow, busy and congested. The streets and lanes in the centre of the town and those situated between pinnagatter road Gunduvari street road towards south are narrow and are subjected to heavy vehicular traffic. The main road is used for one way movement only. In general sparsely population portions of the town are having wide roads while congested portions are having narrow lanes. Further, the town has developed in linear fashion with main bazar as major arterial. Heaviest traffic was observed on Tampera road, Government Hospitals road, Symalva road and Godavari road. The main road being one way recorded low volume. Proposals have been made to widen all these roads in addition to laying an Inner Ring Road by the side of Andhra Pradesh Paper Mills.

2.7 NELLORE

2.7.1 General

Nellore lies on 14°-27' N lat. and 79°-59' E long. It is bounded on the north by River Pennar, on the south by a large extent of highlevel ground called the Daragamitta, on the west by the Nellore tank and on the east by paddy fields. The town is at a distance of about 175 kms north of Madras and 15 miles from sea-coast mention has been made about the existence of Nellore then called Vikramasimhapure in the Hindu mythology. The town was first constituted into Municipality in 1885. The population of the city during 1971 is 1,33,607 and expected to reach 2,18,000 by 1991. Nellore is the Head Quarters of Nellore District.

2.7.2 Means of Transport

Nellore is on the National highway No. 5 and also on the Broad gauge railway line from Madras to Calcutta and thus has a direct link with many far off and important places.

Roads leading to Nellore

The National highway No. 5 connecting Madras and Calcutta passes through heart of the town. Nellore-Bombay State Highway, Nellore-Udayagir (via) Buchireddy palle being a district road, Nellore-Mypadu is also State highway connecting seaside villages to the Dist. head quarters, Nellore-Krishnapatnam and Nellore-Kodur road are the major district roads.

There are also direct roads to Podalakur and Narasimhakonda district from Nellore.

Streets in city

The total length of the roads and streets maintained by Municipality are given in table.

1. C.C. roads	13.60 kms.
2. Black topped roads	51.25 kms.
3. Metal surface roads	12.45 kms.
4. Gravel roads	1.30 kms.
5. Earthen roads	1.16 kms.
	<hr/> 79.76 kms.

Railways : The Railway line was first laid in the district during the year 1887. The Broad gauge railway line connecting Madras to Calcutta passes through the heart of town.

Mass transit : As Nellore district is served by a single main line from South to North along the coastal belt with only one connection from Gudur to Ranigunta, most of the district has to depend on roads for their transport. Almost all the important towns and villages are connected with Nellore by roads and also served by bus facilities to reach Nellore.

2.8 KAKINADA

2.8.1 General

Kakinada is a port town. It is connected by a branch line from Samarlakota on the Madras-Calcutta main line. All parts of the district are also connected to this town by State highways and major district roads. As it being a Sea port, it is connected to other countries by waterways. With the proposed improvements to the port, establishment of fertilizers industries, and as it is attracting port based industries it is going to become one of the important cities in the State. As it is destined to grow rapidly in future, it is necessary to have a planned development for the town, with adequate transportation facilities.

2.8.2 Intracity Transport

Roads

Though Kakinada is one of the major port town in Andhra Pradesh, the town has not been connected to the rest of the country directly.

There are four major roads leading from Kakinada, Samarlakota road is a State highway leading to Rajahmundry. The Pithapuram road proceeds north from Kakinada and joins the Madras-Calcutta National Highway. The Kotipally road proceeds South-west from Kakinada and proceeds towards Central deltas by West Godavari district by ferry connection on Godavari and a new bridge is under construction at this place. There is one more connection from Kakinada to Rajahmundry via Ramachandrapuram from Kakinada-Kotipally road meeting the State highway at Dwarakapudi.

Rail

The district is served by only railway line with a branch to Kakinada.

Inland waterways

Kakinada is connected to other places by Canal navigation also. In addition to railways, canals are also serving the hinterland of Kakinada for transportation of goods.

Goods are mostly transported by rail and boats. The quality of goods imported to Kakinada by rail and boats are more than those exported from Kakinada. This because Kakinada is a Port and the port itself is present by handling more exports than imports. In 1970 exports are of order 4,60,707 tonnes where as imports are only 45,009 tonnes. Fertilizers, Engine parts are imported where as Iron ore, pig iron,

tobacco, Rice, Bran, Horns, Ground nuts, extractions, sea shells. Bone Snaw etc. are exported.

2.8.3 Intercity transport

Traffic in Kakinada is heterogeneous in character. This traffic, conflicting with uncontrolled pedestrians is creating traffic jams which obstructs free flow of traffic and results in traffic accidents.

Generally, the roads in the new town are broad and straight. There is only one bridge connecting over Salt creek between old and new towns. The roads in the old town are narrow and crooked when compared to the pattern north of salt creek. The Railway line is passing through the new town with two stations serving the people.

As the densities in different areas are not evenly distributed and due to expansion of educational and commercial activities certain localities are over congested creating traffic hazard along the main road and streets where commercial activities are concentrated. There are no parking places along these important roads and streets. Further the entire town is longitudinally situated to a length of about eight kilometres and this shows that the distance between the whole to the place of work will be comparatively much and the provision of quick and cheap mass transportation system from all the localities of the town to the places of work has to be taken up.

The Salt creek that rises from the Bay of Bengal slices the city into two separate units, one being the old town Jaganadhapuram on the southern side and the other part on northern side. These two areas are linked with only one bridge. And also the entire direct traffic from Yanam and Kotipally side also has to pass through this bridge. These two ways mixed traffic with local slow moving traffic and unorganised pedestrian traffic, it is desirable to provide another over bridge to avoid any delay in the quick movements of traffic during peak hours. This bridge was carrying 4092 vehicles towards Kakinada and 3181 towards old town is about 7273 vehicles of mixed traffic per hour which require at least of 6 lanes.

2.9 MACHILIPATNAM

2.9.1 General

Machilipatnam is one of the oldest towns and was known to a great port town on the east coast of the country even in the early historic period. It is the head quarters of Krishna district. The town is surrounded on all sides by an agricultural belt. It is well connected by road, rail and waterways with the other important places. So due to the above communication facilities Machilipatnam has become an important commercial centre in that region. It has a population of 1,01,417 persons as per 1961 census. It is not growing fast in the recent decades when compared to other similarly placed towns and cities.

2.9.2 Intracity transport

There are two State highways connecting to Vijayawada and other with Eluru. These roads connect

the town with other cities through the National and State highways passing through Vijayawada and Eluru. There are four major district roads connecting Machilipatnam with Nagayalanka, Vissannapeta, Gudivada, Manginapudi and Bantumilli.

Machilipatnam is also connected with Vijayawada by rail and also by canal. This rail line was first opened as a meter gauge in 1908 and was converted into broad gauge recently. On an average daily about 525 persons come by train to the town while 495 leave from the town. The goods exported by rail are mostly agricultural and imported being kerosene, coal, pulses etc.

Though inland waterway exist between Machilipatnam and Vijayawada the goods carried by this mode is negligible. Machilipatnam is an intermediate port like Kakinada while Visakhapatnam is a major port in the State. The trade at the port is not encouraging as the ships to be loaded at a distance of 8 Kms. in the sea. The quantities handled at this port declined since 1965.

2.9.3 Intercity transport

The total length of roads and streets maintained is 155.14 kms. The length by category wise are shown below.

1. Cement concrete roads	.. 1.63 kms.
2. Black topped roads	.. 30.74 "
3. Metalled roads	.. 48.13 "
4. Gravelled roads	.. 18.44 "
5. Earthen roads	.. 56.20 "

Most of the streets in the city are parallel to either of the two important main roads of the town which are crossing each other at the Robertson square, thus forming a grid iron pattern of circulation. In this town, bridges over canals and drainages channels and the railway level crossings are located away from the thickly populated areas. Heaviest traffic is observed on Sadak-Cantonment and Noble roads because of existence of commercial and educational centres on these roads.

2.10 TIRUPATHI

2.10.1 General

Tirupathi derives the importance and popularity due to location of the sacred shrine of Sri Venkateshwara at Tirumala, about 12 miles from Tirupathi. Tirupathi was planned and developed by the great Vaishnava preceptor Sri Ramanuja in about 12th Century. It is situated on Lat 138°40'N and Log. 79°27' E and at a height of 150 metres above the sea level, in Chandragiri Taluq, Chittoor district of Andhra Pradesh. Being a prominent pilgrimage centre, Tirupathi has acquired educational importance, since the establishment of Sri Venkateshwara University at Tirupathi in 1954. Today Tirupathi provide central place functioning of a higher order like University education and superior medical facilities for the Rayalaseema region. In recent years an Industrial corridor is also fast developing on the Renigunta-Tirupathi road. All these developments have resulted in the spectacular growth of the town in the recent decades.

2.10.2 Means of transport

Roads

Tirupathi is situated on the MDR which connects Renigunta on the east and Chandragiri on the west. The coastal Andhra districts including Nellore and Madras city are connected to Tirupathi via Renigunta. A number of important places both within and outside the State of Andhra Pradesh including the small and medium size towns in Andhra Pradesh are connected to Tirupathi and regular daily buses are plying between Tirupathi and various other places.

2.10.3 Present circulation pattern in the town

The pilgrim traffic generating at Tirupathi is destined to worship Holy shrine, located at Tirumala and Tiruchanur and hence moves along these directions. The traffic generated at the central area of the town i.e. at Gandhi road and Prakasham road takes off to Tirumala along Alipiri road and Sorojine road. The traffic generated around Govinda Rajaswamy pushkarini, moves along Govindarajasamy Car street, Tilak road and takes turn along Kapilathirtham road leading to Tirumala.

As the Sri Venkateshwara University with several of its constitutional colleges is located to the West of Tirupathi town along Chandragiri road, traffic from Tiruchanur and Renigunta directions moves along Bandla street, Gandhi road, Prakasham road and towards Chandragiri road. Fig. shows the general outline of the Tirupathi town.

2.10.4 Growth of vehicles in Tirupathi town

An analysis of the registered vehicles on road over different periods gives overall picture of the developmental activities in and around the town.

Table

Sl. No.	Type of Vehicles	No. of vehicles		
		1959	1964	1969
1. Cycles		992	1119	1142
2. Cycle rickshaws		120	164	263
3. Tonga		40	23	8
4. Animal drawn carts		98	79	9
5. Hand drawn carts		3	4	22
		1253	1389	1444

Registered vehicles on road in Tirupathi.

Type of vehicle	No. of vehicles		
	1959	1964	1969
Cars and taxis	203	344	343
Buses	252	323	428
Trucks	331	432	565
Motorcycle & scooters	25	80	152
Other (Automotive)	18	23	31
	829	1202	1519

2.10.5 Mass transit

Tirupathi town as an important pilgrim centre is served by several bus routes. The district head quarters of all the neighbouring districts of Cuddapah, Ananthapur, Nellore, Ongole and Kurnool are

connected by road. The State capitals of the three southern states via. Madras, Bangalore and Hyderabad are also directly connected to Tirupathi and daily bus services are being operated between these cities and Tirupathi. Besides the number of towns, the pilgrim centre like Sreesailam, Kalahasti and Bhadrachalam in Andhra Pradesh state and Kancheepuram and Tirutance in the State of Tamilnadu and also directly connected to Tirupathi by road.

Railways

There are two railway stations in Tirupathi; one is the Tirupathi east and the other Tirupathi west and both of them are on the Villapuram-Renigunta meter gauge line. Renigunta an important busy railway junction on the Bombay—Madras broad gauge line is about 11 kms. from Tirupathi and is also connected to Tirupathi east railway station, by broad gauge. On an average about 20 lakhs persons arrive into and 14 lakhs persons leave out of Tirupathi east Railway station during a period of one year.

Airport

Tirupathi is also connected to all the metropolitan cities of the Southern States by Air. The aerodroma is located near Renigunta. Daily scheduled flights are being operated between Tirupathi, Madras, Bangalore and Hyderabad.

2.11 ONGOLE

2.11.1 General

Ongole lies on 15°37'N lat. and 80°7' E long. The town lies close to a hill which containing a temple of Lord Rama. The town is situated at a distance of 300.0 kms. North of Madras, 210 km. south west of Machilipatnam. The Grand Trunk Road connecting Calcutta and Madras is passing through the heart of the town. It has become the district head quarters of Ongole district, which was newly formed in 1970. It was subsequently, renamed as "Prakasham district" in 1972 to cherish the pond memory of the great Andhra leader Tanguturu Prakasham Panthulu, born in this district. The town is connected to all important places of Rayalaseema and in northern district by Bus. Ongole town has a population of 53,330 according to 1971 census.

Ongole is an important commercial centre for the export of betel leaves, ghee, butter, cigars, grains, pulses, ground nuts, chillies and turmeric are also exported from this town even to the places outside the State.

2.11.2 Means of transport

Roads

There are five major roads passing through Ongole town to far off places. Grand Trunk road (NH. 5) connecting Calcutta on north and Madras on the south, State highway connecting Ongole to Kurnool via Nandyal, State highway connecting Ongole to Piduguralla via Addanki, major facilities to reduce in respect of.

NOTE ON TRAFFIC AND TRANSPORTATION IN HYDERABAD

1.1 INTRODUCTION

Hyderabad, like other Metropolitan cities of India has experienced tremendous population growth between the years 1901 and 1981, because of rapid industrialisation and Urbanisation. The population increase was from 4.5 lakhs in 1901 to 25 lakhs in 1981. It is the sixth largest city according to Census 1981. This rapid growth in population created manifold, regional impact both in passenger and commodity flows. It is connected to other Metropolitan cities of the country by road, rail and air. In its own regional territory, the travel is mostly by buses because of inadequate rail network and inefficiency of operation.

1.2 AVAILABLE MEANS OF TRANSPORT

1.2.1 Intracity Transport

1. Roads

The city has ten main arterial roads connecting different parts of the city and converging to the centre of the city to form a radial pattern of network. The traffic on these roads is of heterogeneous nature ranging from bullock-carts to heavy trucks. The proportion of slow moving vehicles varies between 20% to 70% of the total traffic depending upon locality. This high proportion of slow moving traffic is posing severe restriction to the fast moving traffic. The roads built for light and slow traffic of the past do not meet the requirements of the present day traffic resulting in bottle-necks to free flow of traffic.

The main modes of road transport in the city are presented below

- | | |
|---------------|---------------------------------------|
| A. Manual | a) Animal drawn carts |
| | b) Hand drawn carts |
| | c) Bicycles |
| | d) Cycle rickshaws |
| B. Mechanical | a) Stage carriages (i) A.P.S.R.T.C. |
| | (ii) Private |
| | b) Goods Vehicles (i) Public carriers |
| | (ii) Private carriers |
| | c) Contract carriages |
| | (i) Buses |
| | (ii) Taxi cabs |
| | (iii) Auto rickshaws |
| | d) Tractor trailers |
| | e) Non-transport (i) Motor cars |
| | (ii) Jeeps |
| | (iii) Mini Buses |
| | (iv) Motor cycles |
| | (v) Others |

C. Electrical : Nil

2. Rail

In the Hyderabad, Secunderabad area, there is a regular suburban service on the meter gauge between Medchal on line and Umdanagar on Bangalore line. This is run with modified old conventional coaches hauled by Diesel locomotives.

1.2.2 Intercity Transport

1. Roads

A. Passenger

Hyderabad city has nationalised transport system since 1937 and was one of the earliest in the country. As it is the Capital and only Metropolitan city of Andhra Pradesh State, it attracts trips not only from the major cities and towns of the state but also from other states like Maharashtra, Karnataka, Tamilnadu etc.

The Corporation known as A.P.S.R.T.C. (Andhra Pradesh State Road Transport Corporation) came into being in 1953. Previously in Hyderabad, was only one Bus terminal located at Goulguda known as Central Bus Station. Another Bus terminal, as a response to the suggestion by the Hyderabad Area Transportation Study Consultant, is located at Picket and started functioning from April, 1986.

B. Goods

The Principle role in intercity transport of goods is of Transport Enterprises. High truck traffic plies on the four National Highways that pass through the city connect the following Metropolitan cities of India.

- (i) On the eastern side to Madras and Calcutta.
- (ii) On the western side to Bombay.
- (iii) On the southern side to Bangalore.
- (iv) On the northern side to Nagpur and Delhi.

Besides, they touch a number of District head quarters of the state like Vijayawada, Guntur, Vishakapatnam, Ongole, Kurnool, Nizamabad, Adilabad etc.

2. Rail

The city is connected by rail to all the major cities in India, i.e. Bombay, Delhi, Madras and Bangalore. Except for Bangalore the connection is by Broad gauge railway line.

SITUATION OF CITY TRANSPORT SYSTEM

2.1 GENERAL

Hyderabad is the seat of Administration for Andhra Pradesh State through which National Highway-7 and National Highway-9 are passing linking the major cities of the country. The road network, as said earlier, is of radial pattern, constituted by State highways, arterial roads and service roads. The extent of road area in the city is hardly 7% which is rather low. In addition, the rapid growth in the Vehicular population and the presence of mixed traffic conditions resulted in traffic congestion, delays and accidents which necessitate immediate improvements to the transport system. Moreover, the

passenger transport service by rail is less and it is estimated that the mass transit by road will reach its capacity by 1991.

2.2 INFRASTRUCTURAL FACILITY

2.2.1 Roads

The length of road network in Hyderabad Municipal area and Hyderabad Metropolitan area is indicated in the table below :

Type of road	Distribution of roads		
	Municipal area in Kms.	Metropolitan area in Kms.	Total in Kms.
i) National Highways	30.50	83.50	114.00
ii) State Highways	10.50	27.00	37.50
iii) Major arterials & Minor roads	74.00	98.50	172.50
	115.00	209.00	324.00

At present intracity bus services are operated from 9 depots located in the various parts of the city and its proposed to add 6 more depots in the near future. There are two central bus stations, plying buses to major parts of the state and country.

2.2.2 Rail

In the twin cities, while there is a regular Suburban service on the meter gauge between Medchal and Umdanagar (56 kms.) including double lines between Bolarum and Faluknuma (27 kms.) with as many as 22 pairs of local trains per day, the Suburban service on the Broad gauge is meagre with 2 pairs of local trains per day.

In addition, Hyderabad is connected by rail to the major cities of the country.

2.2.3 Airways

Hyderabad is having Airway facilities at Begumpet, connecting all the Metropolitan cities of the country. Recently, it started plying International flights to Tehran, Jeddah and Dubai.

All the intracity and intercity movement to and from the city is by road, rail and air only and there are no under ground and waterway transport systems.

The road and rail network of the city are shown in the Fig. 2.1. In fig 2.2, the carriage-way widths of the roads are presented.

2.3. MEANS OF TRANSPORT

In the Hyderabad Metropolitan area, most of the travel is by road only and by various modes ranging from animal drawn carts to motor vehicles.

The percentage split of trips by modes is presented below.

Walk	19.85%
Bicycle	21.93%
Cycle-rickshaw	4.82%
Auto-rickshaw	2.44%
Scooter	13.98%
Bus	34.34%
Car	1.37%
Train	0.75%

From the above figures, it is evident that maximum travel is by bus followed by cycles and walk. Minimum passengers trip attraction is by train, because of its limited network.

2.4 VEHICULAR POPULATION

There is stupendous increase in the number of Vehicles due to the rapid growth in population and industries. The total number of automobiles in the city increased from 67000 in 1976 to 228392 in 1985. The number of vehicles by type in the year 1984 are tabulated below.

A. Manual :

a) Animal drawn Carts	4,000
b) Hand drawn carts	4,000
c) Bicycles	400,000
d) Cycle rickshaws	13,000

B. Mechanical :

a) Stage carriers	
i) A.P.S.R.T.C.	919
ii) Private	55
b) Goods vehicles :	
i) Public carriers	2171
ii) Private carriers	1357
c) Contract carriages :	
i) Buses	490
ii) Taxi cabs	518
iii) Auto-rickshaws	10967
d) Tractor trailers	89
e) Non-transport :	
i) Motor cars	18097
ii) Jeeps	5101
iii) Omni Buses	372
iv) Motor cycles	121511
v) Others	310

From the above table, the number of slow moving vehicles is 421000 where as the number of fast moving vehicles is 171957. The high percentage of slow moving vehicles impede the flow of fast moving traffic, creating mixed traffic flow conditions.

TRANSPORT PROBLEMS & REQUIREMENTS

3.1 PRESENT TRANSPORT PROBLEMS

The main problems of Transportation in Hyderabad are identified as below.

- (i) Increased journey times.
- (ii) Reduced accessibility.
- (iii) Inadequate parking and terminal facilities.
- (iv) Mixing of Local and long distance traffic.
- (v) Heterogenous traffic conditions.
- (vi) Increased in accidents due to inadequate traffic aids resulting in unsafe travel.
- (vii) Traffic bottle-necks and barriers.
- (viii) In-adequate public transit facilities.
- (ix) Lack of co-ordination between land development and Transportation supply.

These problems, unless tackled at the earliest, become unmanageable as the time passes and hence there is need to take up necessary steps for solving these problems. The situation demands formulation of the systematic action plan for Transportation improvements requiring Comprehensive Traffic and Transportation Study.

Transportation Engineering section of Regional Engineering College, Warangal, has been retained with Professor S. Raghavachary, as Project Coordinator, Hyderabad Area Transportation Study (HATS), to present solutions that will improve traffic situation by making more efficient usage of existing facilities and to formulate plans for the expected traffic during the years 1986, 1988, 1993 and 2001.

3.2 INTERIM FINDINGS

The consultants during their study have so far submitted 18 progress reports in different aspects of traffic and transportation. The following is the summary of the interim findings based on Transportation System Management action.

The Hyderabad metropolis has substantial hinterland extending its influence over 10 surrounding districts, Adilabad, Karimnagar, Khammam, Nizamabad, Warangal, Medak, Sangareddy, Nalgonda, Mahboobnagar and Ranga Reddy. The city commuter region includes 7 taluqs Narsapur, Gajwal, Bhongir, Ibrahimpatnam, Shaltnagar Chevella and Sangareddy.

3.3 TRAVEL CHARACTERISTICS

The following are some important facts about travel.

1. Total length of important roads in city . . . 235 kms.

2. Vehicle—Kms. of travel during peak-hour are as follows :—

23,569	Car	Km.
81,461	Scooter	Km.
8,454	Bus	Km.
7,207	Train	Km.
37,072	Auto-rickshaw	Km.
1,79,167	Cycle	Km.
43,976	Cycle-rickshaw	Km.
3,80,906	Total	Km.

3. Passenger—km. Travel during peak hour is as follows :—

70,000	Car passenger	Km.
1,23,000	Scooter	pass Km.
8,50,000	Bus	pass Km.
1,12,000	Auto-rickshaw	pass Km.
1,80,000	Cycle	pass Km.
33,000	Cycle-rickshaw	pass Km.
15,23,000	Total Passenger	Km.

4. Fuel consumption during peak hour in a day :

During peak hours 10 the sand litres of petrol and 5½ thousand litres of diesel is being consumed each day. This amounts to Rs. 36 crores both of petroleum products being consumed per year in the Municipal area above.

5. By-passable traffic

Approximately 9200 trucks enter and leave the Municipal boundary every day, while 5800 trucks enter and leave HUDA boundary everyday. This shows that nearly 50% of the truck trips are produced within Hyderabad Urban Development ring. 9000 trucks/day are bypassing the Municipal area, 1400 trucks/day HUDA area and 850 trucks/day in the region. Fig. 3.1 shows the same.

6. Traffic Composition

The proportion of slow moving vehicles varies between 20% to 70% of total traffic depending upon locality. On an average 50% appears to be slow moving composition.

7. Speeds

The average running speeds in the city vary between 20 to 40 kmph, while the average journey speed varies between 10-30 kmph as shown in Fig. 3.2 & 3.3.

8. Bottle-necks

Following are the important bottlenecks where journey speeds are below 10 kmph and running speeds less than 20 kmph.

- * CHARMINAR
- * CBD OF HYDERABAD
- * KACHIGUDA
- * AMBERPET
- * CHIKKADPALLY
- * SECUNDERABAD CBD
- * AMEERPET
- * KHAIRATABAD
- * NAMPALLY
- * PURANAPOL
- * BOATS CLUB.

9. Delays

Major delays due to traffic flow occur at Rail/road crossings, Mandi area, Chaderghat area and Gunj areas as shown in Fig 3.4.

10. Corridor delays

There are seven major arterials in the city which are acting as major corridor as shown in Fig. 3.5. All the corridors have the following delay characteristics.

Running time—70%

Congested delay—20%

Stopped delay—10%

In other words 30% of the time is lost due to delays. The congestion delay is maximum along Naya pool-Shaik-pet route while stopped delay is maximum along the Kukatpally route (Fig 3.6).

11. Road Accidents

The accident statistics of Hyderabad city show that the road accidents increased from 104 in 1952 to 735 in 1983. The alarming rate of increase in road accidents is attributed to higher proportion of slow moving vehicles, pedestrianisation and parking.

12. O + D Surveys

The detailed origin and destination surveys conducted through Home interview and other surveys in Municipal Area, have shown that maximum of 34.34% of trips are shared by Bus with 4,38,836 trips, followed by cycle with 21.93% with to 2,80,194 trips. Fig. 3.7 shown the share of trips by each mode.

Based on the above findings, it is proposed to prepare a plan of action for immediate and short range reliefs through low cost solutions to ease out the situation. The details of the Traffic System Managements actions proposed are discussed in the next article.

3.3. PRESENT TRANSPORTATION REQUIREMENTS

3.3.1 The proposed improvements for traffic and transportation have worked out based on the following objectives.

- (i) to improve the vehicular flow on the network through Transportation System Management actions.
- (ii) To provide infrastructural facilities for minimising the congestion.
- (iii) To improve the Mass transit facility for Urban Commutation.

3.3 It has already been brought out that several bottlenecks on the existing system are causing hindrance for free flow of traffic, hence it is proposed that the following improvements may be taken up at the earliest where the hinderence to free flow is found to be maximum.

- A. Geometric improvements to at grade junction to channalise the traffic.
- B. Installation of signals and their coordination on major corridors to increase the speeds.
- C. Provision of pedestrian facility like pelican crossings and subways for seggregating them from fast traffic.
- D. Grade separated Rail/Road crossing on the major corridors to reduce stopped delays.

It is contemplated that the above improvements will not only provide smooth flow of traffic but also generate benefits in the form of increased speeds, reduced delays hence reduced operational costs. They also contribute to the benefits in the form of reduction in the accidents, and other indirect benefits Specific tasks included in the T.S.M. are :

1. Improvements at least 50 at grade intersections.

There are 100 intersections in the study area that require immediate relief. Out of them about 50 junctions are already completed with traffic channelisers and improved pavement conditions. The remaining 50 at grade intersections require immediate relief on priority basis.

2. Improvements to major corridors.

All the identified tidal flow corridors require varying carriageway widths but approx. 23 meters of paved carriageway is found to be adequate. This works out to 6 lanes of 3.8 m. to provide a level of Service C. It is recommended that on these corridors the following arrangements may be adopted.

- * Central two lanes each 4.2 m. should be reserved for fast moving vehicles.
- * The side spaces on either side, (each of 7.2 m. plus footpath width) should be exclusively set apart for slow moving vehicles, pedestrians and parking of vehicles together. Suitable paint marks are to be executed.
- * Bus bays, pedestrian crossing, intersections, signal coordination are to attempted to improve the flow.
- * All major bus bays parking facilities for cycle rickshaws, auto rickshaws are to provided.

Detailed maps and geometric designs are available for 3 corridors for ready execution.

3. Installation of traffic light signals

On the basis of detailed studies, it is recommended that 42 places required sophisticated signals with pedestrian phases. Work is in progress for signal installation and coordination on two major corridors. Apart from these 20 more places require signal installation at the earliest.

4. Provision of pedestrian subway

The following places are favourable for pedestrian subways :—

- * ABIDS
- * HARIDWAR JUNCTION
- * KOTI
- * KACHIGUDA CROSS ROADS
- * SECUNDERABAD STATION.

At Abids an underpassage with one side petty shop arrangements is found to be economically viable.

5. Grade Separation of Rail/Road crossings

Ten important level crossings in Hyderabad city were studied in detail where direct and indirect losses to the road users are computed due to frequent closure of railway gate. The following table gives the details.

Name of the crossing	Proposed type of construction	Priority
Sanathnagar	4L R.O.B.	1
Dabirpura	3L ROB	2
Lalapet	4L ROB	3
Jamoi-Osmania	3L ROB	4
Fathenagar	3L ROB	5
Seethaphalmandi	3L ROB/RUB	6
Ramakrishnapuram Gate	2L RUB	7

Grade separation is required at Fatehnagar, Dabirpura and Seetaphalmandi.

6. Providing infrastructural facilities in the form of truck parking lots and truck terminals to restrict the trucks movement in the city area.

From the studies, three regional terminals with pacca facilities on the following roads are identified.

- * Vijayawada Road
- * Bangalore Road
- * Bombay Road.

Three places are identified for mini-terminals on the following roads.

- * Warangal road
- * Nagpur road
- * Vikarabad road.

From these atleast four truck parking lots are needed to be taken up urgently. It is contemplated that the proposed improvements will curtail the truck movements on the city roads.

The above facilities are partly self supported by accruing revenue through nominal charts levied on goods carriers and leasing out of the area for passenger and crew amenities.

7. Shifting of wholesale markets like grain, fruit, vegetable and hardware to places away from CBD to minimise congestion on the links leading to the existing markets.

8. Construction of Regional bus terminals so as to separate through and local traffic of bus passengers.

The following locations are recommended for Regional bus terminals.

Locations	Sectors to which this terminal will enter
Gowliguda	Bangalore, Kalvakurthy, Vikarabad.
Dilsukhnagar	Vijayawada, Nagarjunasagar
Picket	Karimnagar, Nagpur
Hussain Sagar	Bombay, Narasapur
Azamabad	Warangal

A circular service connecting all those terminals is also recommended.

Through these measures the entire long distance truck and bus travel across the city will be eliminated resulting in the use of the existing road network entirely by the local traffic. This may lead to reduction in road widening programme.

9. Improvements to Mass Transit

As brought out already it is expected that 15 lakh passenger trip will be handled by bus transport in the year 2001. To cope up this demand it is proposed to augment the existing bus fleet size considerably since this mode is the major Mass transit in the city. To be specific, an additional 500 buses are to be added to the existing fleet in a phased manner.

This contemplated augmentation in the fleet size not only helps the urban poor but also the use of high occupancy vehicles to move people rather than more vehicles discouraging the private vehicle usage. Thus it contributes to the conservation of much sought after energy resources.

10. Removal of bottle necks on River Musi and other location

At the following locations narrow bridges and approaches are causing substantial congestion delays.

- * Puranapool
- * Chaderghat
- * Amberpet
- * Nalakunta
- * Boats Club
- * Oliphent bridge

11. Construction of Bikeways : Since bicycle traffic is found to be substantial at certain localities it is proposed to improve riding surface with facilities for bicycles to encourage them to use these tracks.

TRANSPORTATION SCENARIO IN 2001

Mass Transport Requirements

Based on the past growth the anticipated population works out to 41.20 lakhs in the year 1991 and 59.16 lakhs in the year 2001.

Assuming per capital trip rate, the total trips per day would be as follows :—

Year	Population in lakhs	Trip rate	Total trips in lakhs
1984	30.00	0.71	21.3
1991	41.20	0.84	34.6
2001	59.84	0.97	57.8

At present about half of the trips are being transported by buses in the city through approximately 1000 fleet. This is supplemented by the Sub-urban railway services to the extent of 0.41 lakhs passengers per day.

The existing and estimated mode split is as follows :—

Year	Passengers carried in lakhs per day			
	Bus	Rail	Others	Total
1984 . . .	7.5	0.41	13.39	21.30
1991 . . .	15.0	2.71	16.89	34.60
2001 . . .	15.0	20.91	21.89	57.80

While doing it is assumed that the ultimate number of buses that can be added on to the roads after the improvements is an additional 1000 fleet. It is also assumed that every year 25000 private vehicles are being added continuously to the existing vehicles based on the trends.

In other words, by the year 2001 the mode split between the bus and rail transport would be at 42.58 prop. By the year 1991 the full capacity of the road system is to be utilised by an addition of 1000 buses which leaves 2.71 lakhs trips per day to be carried by

the Railways. So it is proposed to achieve this capacity of Rail services by electrification to the existing metre gauge 3 between Umdanagar to Medchal and Patancheru to Moulali and to Hyderabad sections, and a new link between Khairatabad and Kachiguda stations. Appropriate land use changes are to be made to encourage the corridor development on these lines.

CONCLUSIONS

The Traffic and Transportation needs of the Hyderabad Metropolitan city have been arrived at based on the growth projections and empirical formulae. The estimated expenditure for various sub-sectors such as the Bus transport, Road, Railways etc. are computed. Similarly, the major Engineering facilities, New Roads and Traffic Management schemes are also computed and presented. The agency-wise expenditure and phasing is also furnished in the report.

Realising the importance of transportation studies for various projects an organisation for carrying out medium and long-term requirements were also recommended in this report.

TABLE

FINANCIAL PHASING DEPARTMENT-WISE AND YEAR-WISE

(Rupees in lakhs)

S. No.	Year	1985-86	1986-87	1987-88	1988-89	1989-90	Total
1.	Huda	1,137	3,527	3,467	1,867	817	10,815
2.	MCH	865	1,750	1,500	400	300	4,815
3.	R & B	550	1,700	1,950	2,300	1,300	7,800
4.	APSRTC	700	750	650	600	600	3,300
5.	APSEB	600	450	600	—	—	1,650
6.	Telephones	160	..	..	..	..	1600
7.	Railways	1,000	4,800	5,550	5,420	4,300	21,070
8.	Police	240	50	..	..	..	290
9.	DTP	500	1,000	1,500	1,000	1,000	5,000
10.	ZDP	150	350	700	600	..	1,800
11.	Water Supply & Drainage Board.	100	1000	800	350	250	25,00
Total		6,002	15,377	16,777	12,537	8,567	59,200
Percentage Budget Break- up		10.14	25.97	28.24	21.18	14.47	100.00

TABLE

FINANCIAL PHASING SECTORWISE AND YEAR-WISE

(Rupees in lakhs)

S. No.	Year/Sector	1985-86	1986-87	1987-88	1988-89	1989-90	Total
1.	Road Sector						
(a)	Road	1,250	3,650	3,900	4,000	1,500	14,300
(b)	Bridges	200	750	1,000	600	450	3,000
2.	Bus Transpn.	1,300	1,850	1,650	600	600	6,000
3.	Rly Transport	1,000	4,500	5,200	5,120	4,000	1,9820
4.	Water transport . . . . .	..	50	..	..	..	50
5.	Traffic management.	735	710	850	500	500	3,295
6.	Utilities.	850	2,450	2300	700	500	6,000
7.	Land use.	650	1,400	1,800	1,000	1,000	5,850
8.	Monitering Cell, HUDA.	17	17	17	17	17	85
Total		6,002	15,377	16,717	12,537	8,567	59,200
% Budget break-up per year.		10.14	25.97	28.24	21.18	14.47	100.00

NOTE ON EDUCATIONAL FACILITIES IN ANDHRA PRADESH

ANALYSIS

As seen from the Table No. III, though the number of institutions have substantively increased over a period of time, the student-teacher ratio increased further, indicating over crowding in case of major urban centres.

The teacher-pupil ratio which were 31.8, 13 in respect of Primary Schools and High Schools during the

period 1956 are around 69, 15 during the year 1982. In case of urban areas it is much higher. The drop out rate is 66% in case of Boys and 93% in case of Girls from Ist to Xth Class.

The Literacy rate of the State rose from 3% during 1901 to 29.72 by 1981, whereas the All India rate stands at 36.23% by 1981. The literacy rate as per 1981 Census is 23.23% in case of rural and 51.23% in case of urban.

TABLE I
RURAL AND URBAN POPULATION DISTRICT-WISE, 1981.

Sl. No.	District	Rural Popula- tion (Persons)	Total No. of Towns	Urban popula- tion (persons)	Percentage of Urban popula- tion to Total Population
(1)	(2)	(3)	(4)	(5)	(6)
1.	Srikakulam	17,45,948	11	2,13,404	10.89
2.	Vijayanagaram.	15,16,697	10	2,87,499	15.94
3.	Visakhapatnam	17,70,513	10	8,05,961	31.28
4.	East Godavari.	29,13,230	16	7,87,810	21.29
5.	West Godavari	22,77,084	11	5,96,874	20.77
6.	Krishna	20,56,401	17	9,92,062	32.54
7.	Guntur	24,89,022	15	9,45,702	27.53
8.	Prakasam	19,80,474	11	3,49,097	14.99
9.	Nellore	14,85,479	8	5,29,400	26.27
COASTAL ANDHRA		1,82,34,848	113	55,07,809	23.20
10.	Kurnool	18,17,700	11	5,89,599	24.49
11.	Ananthapur	20,16,095	11	5,31,917	20.88
12.	Cuddapah	15,58,801	13	3,74,503	19.37
13.	Chittoor	22,75,174	13	4,62,142	16.88
RAYALASEEMA :		76,67,770	48	19,58,161	20.34
14.	Rangareddy	12,05,065	20	3,76,997	23.83
15.	Hyderabad	..	5	22,60,702	100.00
16.	Nizamabad	13,57,030	7	3,22,653	19.12
17.	Medak	15,90,735	10	2,16,404	11.97
18.	Mahaboobnagar	21,77,398	11	2,67,221	10.93
19.	Nalgonda.	20,20,168	10	2,59,517	11.38
20.	Warangal	19,03,821	4	3,96,474	17.24
21.	Khammam	14,54,188	7	2,97,386	16.98
22.	Karimnagar	20,51,593	12	3,84,730	15.79
23.	Adilabad	13,21,910	12	3,17,093	9.35
Telangana		1,50,81,908	98	50,99,177	25.27
Andhra Pradesh		4,09,84,526	259	1,25,65,147	23.46

TABLE II
DISTRIBUTION OF TOWNS BY SIZE CLASS 1961, 1971 & 1981.

Size Class	No. of towns in 1961	Population	% to total Urban population	No. of towns in 1971	Population	% to total urban population	No. of towns in 1981	Population	% to total urban population
1	2	3	4	5	6	7	8	9	10
I	11*	2,676,944	42.66	13**	4,063,441	48.36	20	67,13,188	54
II	8	5,32,301	8.48	17	1,121,533	13.35	30	20,16,775	16
III	51	15,20,603	24.24	59	17,57,439	20.92	87	25,97,544	21
IV	71	9,92,500	15.82	76	11,26,783	13.41	65	9,29,303	7
V	70	5,48,197	8.74	38	3,18,026	3.78	28	2,16,079	1.90
VI	1	3,963	0.06	4	15,305	0.18	4	14,687	0.10
All Classes	212	62,74,508	100.00	207	84,02,527	100.00	234	1,25,65,147	100.00

*Including the town-group of Hyderabad.

**Including the 4 urban agglomeration.

The urban population grew steadily from 17.44% during 1961 to 19.31% by 1971 and 23.46% by 1981. The number of Class-I towns rose from 11 to 20, and Class II towns from 8 to 30. The urban population in these two classes are at present around

70%; which was only around 50% by 1961. The growth of urban population is at 33%, when the growth of State Population is 23%, which indicates clearly the magnitude of migration, caused due to urban agglomeration benefits expected for.

TABLE III
NO. OF INSTITUTIONS—ENROLMENT—TEACHER-RATIO—(STATE)
1973-74 AND 1982-83

	Number of Institutions 1973-74				Number of Institutions 1982-83			
	Primary School	Upper Primary school	High school	Colleges 1974-75	Primary School	Upper Primary School	High School	Colleges 1982-83
Intake	36,944	3,682	3,124	199	41,291	5,056	4,031	295
Teachers	31,36,746	8,82,155	10,19,621	1,77,206	42,80,175	14,13,082	17,13,725	2,91,473
Trained	77,970	29,291	50,618	8,840	80,851	55,802	58,711	11,210
Untrained	1,240	1,798	2,444	—	871	848	795	..
Student Teacher Ratio	40	29	20	20	52	40	30	26

TABLE IV
NUMBER OF EDUCATIONAL INSTITUTIONS—1971

	Rural	Urban
Primary Schools	25,971	4,266
Middle Schools	2,120	830
High Schools	2,082	1,360
Colleges	45	198
Others like : (Typing, Shorthand, I.T.I.s etc)	65	1,297
Engg. Colleges	—	12
Polytechnics	—	33
Medical (including Homeopathy, Ayurvedic etc.)	—	23

*Source : Census.

NUMBER OF EDUCATIONAL INSTITUTIONS—1981

	Rural	Urban
Primary Schools	35,136	5,475
Middle Schools	1,915	2,706
High Schools	2,255	1,586
Junior Colleges	—	407
Degree Colleges	4	252
Others— (like Shorthand, Typewriting & ITI etc.)	—	2,187
Polytechnics	—	33
Engg. Colleges	—	19
Medical (including Auyurvedic Homeopathic etc.)	—	43

*Source : Census.

As seen from the above the educational institutions in respect of Primary, High School and Colleges have not grown in proportion, to growth of urban population. As per the Census; more than 50% Colleges are only in Class-I town, and all the professional colleges are in the Class I towns. Please see the statement in respect of educational institutions in case some towns for which Master Plans are prepared (See Annexure-I). As seen from the statement, many institutions do not have play-grounds and Library. Further it is observed that many institutions are housed in rented buildings and many buildings are not good buildings.

As seen from the Annexure-IV, the number of institutions are observed to be much less in respect of bigger cities, when compared to the total number in the urban areas of the State. Thus the institutions in the bigger cities are more crowded.

Expenditure on Primary, High School and Degree Colleges during the periods 1956-57 & 1982-83

STATEMENT NO V.

Level	1956-57	1982-83
	(Crores)	(Crores)
Primary	4.04	161.53
Secondary	1.14	95.05
Inter and Degree Colleges	0.77	74.92

The policies and programmes of the government beyond 2001 might be mostly towards consolidation of the gains made under the VII Plan in terms of strengthening the existing institutions improving infrastructure of the educational institutions, enrolment, adult education, training programmes, to make the teacher community competent for the present and future programmes, re-orientation of education towards purposeful and production oriented, physical education aiming towards a healthy nation. Further to achieve the balanced regional growth through the equitable distribution of educational facilities, in the mandal system. It is also highly essential to aim at discipline and purposeful and meaningful relation between the teacher and the taught, and peaceful educational environments. To improve vastly the teaching aides to keep pace with changing world of space age, during 21st Century.

ANNEXURE - II

EDUCATIONAL STATISTICS—SCHOOL EDUCATION 1984-85 (PROVISIONAL)

Sl. No.	Type of Institution	No. of Institutions	ENROLMENT			TEACHERS		
			Boys	Girls	Total	Men	Women	Total
1.	Pre-Primary Schools	45	1,572	1,361	2,933	12	59	71
2.	Primary Schools	41,702	27,62,317	20,72,733	48,35,050	67,308	24,689	91,997
3.	Upper Primary Schools	5,445	10,36,232	6,57,354	16,93,586	28,270	12,326	40,596
4.	High Schools	4,383	12,89,675	7,20,218	20,09,893	45,489	16,574	62,063
5.	High Schools (attached to Junior College)	296	1,70,720	67,588	2,38,308	4,900	1,620	6,520
Total :		51,871	52,60,516	35,19,254	87,78,770	1,45,979	55,268	2,01,247
6.	Kendriya Vidyalayas and Public Schools etc.	48	33,546	20,790	54,336	673	1,418	2,091
7.	Teacher Training Schools	23	2,128	1,696	3,824	84	10	94
8.	B. Ed. Colleges	28	2,186	1,599	3,785	239	97	336

Sd/-
Statistical Officer
Dt. 25-02-86

IMPORTANT POLICIES ADOPTED SINCE JANUARY, 1983

1. Starting of a separate Women's University namely Sri Padmavathi University at Tirupathi for devoting exclusive attention for women's education.
2. Starting of Telugu Vignanaapeetham—a research institution to integrate and co-ordinate the cultural extension services of various Akademies and to promote research in the literary and cultural fields.

3. Enhancement of corpus fund for starting Government and private colleges with a view to permit the starting of the colleges with adequate resources. Allowing time of the year to pay and corpus fund.

4. Admitting the unaided sections in Private Junior and Degree Colleges from 1-6-84 irrespective of the period of existence.

5. Policy decision taken to admit all the men's colleges which have completed 5 years and women's colleges

which have completed 3 years to grant-in-aid with effect from October, 1985 depending upon the availability of finance.

6. Increase in the E.P.P. Scholarships from Rs. 200 to Rs. 225/- to Hostlers. Transfer of Scholarship sanctioning authority from D.E.O. to D.H.E., and now to Registrars and Regional Joint Directors.

7. Introduction of common entrance test for Engineering and Medical Courses throughout the State.

POLICIES PROPOSED TO BE ADOPTED

1. Policy changes indicated regarding starting of one Junior College in every Mandal and one Degree College in every 3 mandals and one Women's college with vocational courses in every district to be affiliated to Mahila University and one P. G. College in every district.

2. Linking of vocational courses at the Junior College level by starting vocational courses/restructured courses at the Degree Level.

3. Introduction of Telugu Medium at P. G. Level in select courses.

4. Evolving a common syllabus in the courses in all the Universities.

5. Introducing three equal optionals at the Degree Level in all universities to bring about nobility of students from one University to another University.

6. Bringing about a uniform workload for teachers in all the Universities.

7. Bringing about uniformity in the number of working days in all the colleges in the State.

8. Provision of adequate finance a matching share for the purpose of availing U.G.C. grants (150 lakhs for 85-86 and 30 crores for 7th plan period).

9. Organising special coaching schemes for S.C. and S.T. students to enable them to appear for the medical and engineering entrance tests and for the various examinations conducted by the Union and State Public Services Commissions.

COMPUTER APPLICATION COURSES

10. An amount of Rs. 200 lakhs is allotted under the plan for 1986-87 keeping in view the resources available and immediate needs to give a new directions in the field of Higher Education for *Computer Application Courses*. As Computer plays a vital and dominating role in this age of technology, Government feel that computer application courses in select degree colleges will provide better job opportunities to the

students and help to keep them abreast of modern technology.

11. OPEN ADMISSIONS

Government is contemplating an innovative idea of starting a few *open admission* colleges on experimental basis in Arts subjects at + 2 stage to cater to the needs of the students residing in remote places and those who can not get admission in existing conventional junior colleges. This new scheme also helps the people who take out their livelihood on daily wages while prosecuting higher education. In this pattern the students will be taught through modern multimedia teaching technique using taped lessons, Audio Visual cassettes and Television.

IMPORTANT PROBLEMS OF THE COLLEGES TO BE CONSIDERED

1. Inadequacy of accommodation and other infrastructural facilities in the colleges.

2. Procedural difficulties in filling up the vacant teaching, L.D.C. and Typist posts in the colleges on account of the delays at the public service commission level.

3. Non-sanctioning of cadre strength of teaching and non-teaching staff in colleges started during the year 1981-82.

4. Strengthening of the Regional set up—creation of three more Regional Junior Directorate for Zone. I, VI and VII.

5. Lack of effective inspection system to supervise the Government and Private colleges and the need for creating additional posts of Joint Directors and the Supporting Staff for the purposes.

6. Need to strengthening the collegiate cell to provide training for more college teachers conducting more training programmes and to undertake research activities.

7. Expansion and consolidation of vocational courses.

8. Problems of non-fulfilment of conditions laid down for starting the colleges by the sponsorers.

9. The need to review the infrastructural position of the existing colleges so as to prepare a Master Plan for their development.

10. Problem of imbalances of strength in the colleges. To evolve an admissions policy to even out the difficulties. The problems in more glaring in the case of colleges which are situated in the rural areas where the colleges functioning with uneconomic strength and inadequate facilities forcing the rural students to go to urban centres for education.

ANNEXURE I

EDUCATION—INFORMATION MASTER PLANS

Sl. No.	Name of the Town/Dist.	Educational										Management					Facilities Available				
		Technical										Govt.	Pri.	Libr-ary	Lab.	Can-teen	Hos-tel	Play-ground	Lat-rine		
		Pri-ary Sch-ool	High Sch-ool	Coll-eges	I.T.I.	Poly-technic	Engg.	Med. Coll-ege	Staff atten-ding	Pupils atten-ding											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19			
1.	Miryalguda	12	3	2					169	6,545	15	2	1	1			1				
2.	Karimnagar	24	9	6					768	15,067	31	8	10	5			10				
3.	Adoni	41	8	1					457	13,349	26	24	1	1		1	8				
4.	Chittoor	32	8	4					585	17,379	27	17	1	4		1	12	1			
5.	Khammam	20	12	3					588	15,240	19	16	14	12			13	1			
6.	Anantapur	46	7	4	5	1	1		927	21,419	43	21	3	3		2	10				
7.	Nizamabad	45	9	2	1	1			784	16,696	32	26	2	2		2					
8.	Bhimavaram	31	9	6					556	14,394	27	19	1	1		1	10				
9.	Mancherial	9	2	2	1				69	3,294	9	5				1					
10.	Suryapet	13	5	2					214	4,871	7	13	1	1			1				
11.	Jagtial	13	4	1					232	5,180	15	3	9	4			5	1			
12.	Sanga Reddy	9	2	3					202	5,725	9	5	1	1			1				
13.	Mahabubnagar	16	11	2	2	2			707	13,059	25	8	12	8		1	16	1			
14.	Cuddapah	41	7	5					597	17,836	39	14	2	2		1	9				
15.	Guntakal	32	5	1					374	12,468	30	8	5	5			5				
16.	Siddipet	12	3	1					221	4,724	12	4	1	1			1				
17.	Nalgonda	14	9	4	1	1			549	10,059	22	7	13	10			9	1			
18.	Kothagudem	18	8	1	2				444	8,327	19	10	10	8		1	21	2			
19.	Zaheerabad	9	2						95	2,200	10	1	2	2			3				
20.	Tirupathi	28	6	12		2	1		1,201	17,822	43	7	15	14		10	17	2			
21.	Gudivada	30	7	2					474	12,282	28	12	2	2			2				
22.	Tenali	37	9	6	1				759	18,303	41	12	1	1		1	9				
23.	Guntur	116	22	6	8	1		2	1,281	46,902	92	63	18	18		7	29	2			
24.	Nellore	59	13	6	1	1			1,052	27,953	40	40	4	4		2	4				
25.	Rajahmundry	65	15	3	5				970	29,907	61	27	1	1		1	30	1			
26.	Eluru	73	8	6	1				867	25,594	54	34	2	2		2	11	1			
27.	Ongole	36	8	2					397	12,006	28	18	1	1			13	1			
28.	Machilipatnam	51	14	6	1					22,325	43	29	2	2			5				
29.	Kakinada	55	9	5	1	2	1	1	1,240	28,700	57	17					15				
30.	Visakhapatnam	96	16	2	1	1	2	1	1,034	44,217	84	35				1	5				
31.	Vijayawada	85	13	4	1	1			1,314	33,828	83	21		2			22				

STATEMENT SHOWING THE NUMBER OF JUNIOR DEGREE AND ORIENTAL COLLEGES EXISTING AS ON 1-1-1986.

NUMBER OF JUNIOR COLLEGES					NUMBER OF DEGREE COLLEGES.					NUMBER OF ORIENTAL COLLEGES						
Government			Private		Total	Government		Private		Total	Government	Private				
Men	Women	Total	Men	Women		Men	Women	Men	Women							
360	35	395	198	42	240 (96 Aided)	635	111 (+14 Evening Colleges)	24 (including 14 Even. Colleges)	170	34	204 (146 Aided including 12 Even. Colleges)	353	3 (Including Kendreya Vidya Sanskrit Peeth)	50 (49 Aided)		
Number of Mandals					District Headquarters which do not have P. G. Courses					Mandals in which there are more than one Junior Colleges					Mandals in which there are more than one Degree Colleges	
Mandals which do not have Jr. Colleges					No. of Degree Colleges required as per norms											
526					96 (in 14 Dists.)					76					45	
1104					1. Vizianagaram 2. Mahaboobnagar 3. Nalgonda 4. Adilabad											
NUMBER OF JUNIOR COLLEGES ADDED DURING 1983-84					NUMBER OF DEGREE COLLEGES ADDED DURING 1983-84					GRAND TOTAL						
GOVERNMENT			PRIVATE		TOTAL	GOVERNMENT			PRIVATE		TOTAL	TOTAL	TOTAL			
Men	Women	Total	Men	Women		Men	Women	Total	Men	Women						
23	6	29	7 (1984-85)	2	9	38	14	2	16 (1984-85)	3	9	25	63			
31	6	37	4 (1985-86)	—	6	43	18	5	20 (1985-86)	—	8	28	71			
—	—	—	1	—	1	1	1	—	1	—	1	1	2			
ABSTRACT					ABSTRACT					ABSTRACT						
Govt.		Private		Total	Govt.		Private		Total	Govt.		Private		Total		
Men	Women	Men	Women		Men	Women	Men	Women								
Total No. of Jr. Colleges (Boys)					Total No. of Degree Colleges (Men)					125					170	295
359					80					24					34	58
Total No. of Jr. Colleges (Girls)					TOTAL :					149					204	353
36					635											
395					240											
353																

STATEMENTS : STATISTICAL ABSTRACT (1985-86) PROVISIONAL STUDENTS STRENGTH

Type	No. of Colleges.			Govt. Colleges			Private Colleges			Total strength			Teachers	
	Govt.	Private	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Govt.	Private
Degree Courses														
(1) Degree Colleges	149	204	353	55,790	17,240	73,030	1,03,230	379	14,170	1,58,020	55,180	2,14,200	4083	7320
Intermediate Course														
				18,055	10,865	28,920	52,360	22,510	74,930	70,415	33,435	1,03,850		
TOTAL :				73,845	28,105	1,01,950	1,55,590	60,510	2,16,101	2,29,435	88,615	3,18,050		
Junior Colleges														
(2) Jr. Colleges	395	240	635	1,39,270	3,65,70	1,75,790	64,710	26,300	91,010	2,03,980	62,820	2,66,800	4933	2956
Degree Colleges-- (Intermediate)														
				18,055	10,865	29,920	52,360	22,570	74,930	70,415	33,435	1,03,850		
TOTAL :				1,57,325	4,73,85	2,04,710	1,17,070	48,870	1,65,940	2,74,395	96,255	3,70,650		

ANNEXURE IV

NO. OF SCHOOLS MANAGEMENT-WISE OF SOME IMPORTANT CITIES OF ANDHRA PRADESH

Sl. No.	Name of the Town of the Dist.	C.G.	S.G.	PS/ZP	MPL	Pvt. Aided	Pvt. Un-aided	Total
1.	Warangal :							
	P.S.	---	6	---	---	6	43	55
	U.P.S.	---	22	---	---	8	38	68
	H.S.	2	22	---	---	17	10	51
	H.S./Jc.	---	2	---	---	4	---	6
	Total :	2	52	---	---	35	91	180
2.	Vishakhapatnam :							
	P.S.	---	---	---	61	23	---	84
	U.P.S.	---	---	---	16	3	---	19
	H.S.	---	---	---	21	13	---	34
	H.S./Jr. C.	---	---	---	---	1	---	1
	Total :	---	---	---	98	40	---	138
3.	Guntur :							
	P.S.	---	---	---	81	19	2	102
	U.P.S.	---	---	---	5	14	---	19
	H.S.	---	3	---	6	13	2	24
	H.S./J.C.	---	---	---	---	2	---	2
	Total :	---	3	---	92	48	4	147
4.	Vijayawada :							
	P.S.	---	---	---	40	52	1	93
	U.P.S.	---	---	---	15	20	---	35
	H.S.	2	---	---	9	24	5	40
	H.S./Jr. C.	---	---	---	---	---	---	---
5.	Tirupati :							
	P.S.	---	---	---	19	---	5	24
	U.P.S.	---	---	---	6	3	7	16
	H.S.	---	1	---	2	3	4	10
	H.S./Jr. C.	---	---	---	---	---	---	---
	Total :	---	1	---	27	6	16	50
6.	Hyderabad (Dist.) :							
	P.S.	---	281	---	---	28	133	443
	U.P.S.	---	86	---	---	62	118	266
	H.S.	3	102	---	---	110	85	300
	H.S./Jr. C.	---	10	---	---	9	3	22
	Total :	4	479	---	---	209	339	1031

NOTE : C. G. : Central Government.

S.G. : State Government.

COLLEGES--DISTRICT-WISE

Sl. No.	District	Degree						Junior						Oriental					
		Govt.			Pvt.			Govt.			Pvt.			Govt.			Pvt.		
		M	W	T	M	W	T	M	W	T	M	W	T	M	W	T	M	W	T
1.	Srikakulam	8	1	9	1	---	1	25	---	25	1	---	1	---	---	---	---	---	---
2.	V'Nagaram	2	---	2	4	1	5	12	---	12	2	---	2	1	---	---	---	---	---
3.	Vizag	5	---	5	5	4	9	15	---	15	5	4	9	---	---	---	---	---	---
4.	E. Goda- Vari	10	1	11	9	1	10	22	1	23	13	2	15	---	---	---	4	1	5
5.	W. Goda- Vari	4	2	6	14	4	18	13	2	15	14	3	17	---	---	---	5	1	6
6.	Krishna	7	---	7	18	5	23	12	2	14	13	3	16	---	---	---	3	---	3
7.	Guntur	4	1	5	25*	1	26	12	1	13	22	6	28	---	---	---	7	1	8
8.	Prakasam	4	2	6	9	---	9	24	---	24	11	2	13	---	---	---	2	---	2
9.	Nellore	7	2	9	7*	1	8*	12	---	12	5	3	8	---	---	---	2	---	2
10.	Kurnool	6	1	7	10	---	10	18	2	20	11	1	12	---	---	---	1	---	1
11.	Anantapur	12	1	13	3	---	3	18	3	21	6	1	7	---	---	---	2	---	2
12.	Cuddapah	9	1	10	9	1	10	8	2	10	29	1	30	---	---	---	1	---	1
13.	Chittoor	8	2	10	5	1	6	25	6	31	5	---	5	---	---	---	24	---	24
14.	Hyd.	3	3	6	30	12	42	12	4	16	29	12	41	---	---	---	11	---	11
15.	RR. Dist.	---	---	---	2	---	2	10	---	10	11	3	14	---	---	---	---	---	---
16.	Medak	5	1	6	---	---	---	16	3	19	1	---	1	---	---	---	---	---	---
17.	N'bad	4	---	4	3	1	4	11	1	12	4	---	4	---	---	---	1	---	1
18.	M'nagar	5	1	6	3	---	3	18	8	20	---	---	---	1	---	---	1	---	1
19.	Nalgonda	3	1	4	4	---	4	11	1	12	5	---	5	---	---	---	2	---	2
20.	Warangal	3	1	4	4	1	5	14	2	16	6	1	7	---	---	---	11	1	2
21.	Khammam	5	1	6	2	1	3	22	---	22	2	2	4	---	---	---	---	---	---
22.	K'nagar	7	1	8	---	---	---	18	3	21	1	---	1	---	---	---	2	---	2
23.	Adilabad	4	1	5	3	---	3	11	1	12	---	---	---	---	---	---	---	---	---
TOTAL :		125	24	149	170	34	204	359	36	395	196	44	240	2	---	---	47	4	51

(*)--Including V.R. Law College, Nellore & Resdl. Colle.

(£)--Including Kendriya Sanskrit Vidyapeeth, Tirupati.

NOTE ON EMPLOYMENT AND LABOUR IN ANDHRA PRADESH

The following relates to the organised sector of the economy which covers all the establishments in the public sector and non-agricultural establishments in the private sector employing 10 or more persons. Data collected under this programme contains information in regard to total number of employees by sex in the establishments in the previous and current quarters. The data is not collected as per urban and rural areas.

At the end of December, 1985, 13924 establishments were covered under this programme. 1592610 persons were employed in the organised sector of economy. Out of them 1395584 were men and 197026 were women. In public sector 1256163 persons were employed of them 1132287 were men and 123876 were women. In private sector 336447 persons were employed. Out of them 263297 were men and 73150 were women. The employment in public sector branch-wise and in private sector according to size of establishments is furnished below :

Employment as on 31-12-1985			
	Men	Women	Total
A) PUBLIC SECTOR.			
1. Central Government	227367	12023	239390
2. State Government	303792	43841	347633
3. Central Government (Quasi)	158753	12579	171332
4. State Government (Quasi)	249319	8232	257551
5. Local Bodies	193236	47201	240437
Total	1132287	123876	1256163
B) PRIVATE SECTOR			
1. Largest establishments (employing 25 and above)	221752	64833	286585
2. Smaller establishments (employing 10 to 24 persons)	41545	8317	49862
			3,36,447
			1,592,610

The Employment Exchange statistics reflect the un-employment situation in the State. The un-employment situation is based on the job seekers waiting on the Live Registers of the Employment Exchanges in the State. The following table shows the category-wise break-up of job seekers as on 31st December, 1985 and 31st March, 1986.

Sl. No.	Category of applicant	Live Register as on	
		31-12-85	31-3-86
(1)	(2)	(3)	(4)
1.	Post Graduates	20921	20426
2.	Graduates	131589	132583
3.	Matriculates & Under-graduates	925996	940774
4.	Other educated applicants	136116	137611
5.	Engineering Graduates :		
a.	Civil	2955	3072
b.	Mechanical	1734	1764
c.	Electrical	866	858
d.	Others	708	733
6.	Other Professional Graduates :		
a.	Medical	2120	2075
b.	Agriculture	2204	2155
c.	Veterinary	227	207
d.	M.B.A.	189	201
e.	C.A.	96	89
f.	P.G. Diploma holders	120	118
g.	Other P & E applicants	2995	3173
7.	Diploma holders :		
a.	Civil	7808	7924
b.	Mechanical	8036	8287
c.	Electrical	8671	8217
d.	Others	6811	7255
8.	I.T.Is.	93264	96182
9.	B.Eds.	14505	16066
10.	Teachers (S.G.B.T.)	9352	9145
11.	Typists	52455	53792
12.	Stenos	10305	10551
13.	Semi Skilled and un-skilled	892789	898392

Out of total job seekers waiting on the Live Registers of the Employment Exchanges 1325707 belong to urban areas and 1035943 to rural areas.

NOTE ON LABOUR WELFARE CENTRES

The labour enactments like Factories Act, 1948, provide certain welfare measures for the workers when they are on duty. Such welfare measures are not available for the workers during their leisure time and also to their dependents except a limited cases where the big managements have provided their own housing colonies for their workers. In order to undertake labour welfare measures for the benefits and welfare of the Industrial Workers and their dependents, the Government of Andhra Pradesh decided to set up Labour Welfare Centres in the State in different areas where there is concentration of Industrial Labour. A Scheme was initiated with the establishment of six Labour Welfare Centres, in 1966 in the second five year plan. Another two centres were

set up in the second five year plan. Three centres were started in the third five year plan. One centre was started in 1975 and one centre was started in 1979. Thus the 13 labour welfare Centres are functioning at the following places :

1. Sanathnagar, Hyderabad
2. Seethaphalmandi, Secunderabad
3. Azamabad, Hyderabad
4. Musheerabad, Hyderabad
5. Nursery School
6. Vijayawada
7. Guntur
8. Visakhapatnam
9. Nizamabad
10. Sirpurkagaznagar
11. Adoni
12. Rajahmundry
13. Chittivalasa.

The Labour Welfare Centres provide recreational and educational facilities to the Industrial Workers and their families. There are six sections in each Labour Welfare centres to cater the needs of the workers and their families. They are as follows :

1. Adult Education
2. Audio visual
3. Games
4. Crafts
5. Nursery School
6. Health.

The prescribed activities of different sections are as follows :

1. Adult Education Section

The Adult Education Teacher is incharge of this section. Classes are to be conducted in the regional languages, Hindi and English. Essay writing and debates are to be conducted once in a month. Monthly tests are to be arranged to assess the progress attained by the workers. Workers who are found proficient in reading and writing are to be prepared for the examinations conducted by various organisations. There is a Library attached to each Labour Welfare Centre where books, periodicals and daily newspapers are supplied to the workers. The Labour Welfare Centres are authorised to purchase 3 daily newspapers, one in English and 2 in local languages, 3 weeklies, one fortnightly and 2 monthly magazines at a cost not exceeding of Rs. 500/- a year.

2. Audio Visual Section

The Audio Visual Incharge of the Centre looks after the activities of this Section. Projectors, Tape recorders and musical instruments are provided to

each centre. T.Vs are supplied to some of the Centres. Tape recorders, T.Vs and Musical instruments are played for the entertainment of the workers. Film shows and cultural programmes are arranged.

3. Games Section

Games supervisor is incharge of this Section. Various games material is supplied to the Centres. Indoor and outdoor games and tournaments are arranged. Recently in the months of March and April, 1984 inter-factory tournaments are cultural programmes were conducted with the sanctioned amount of Rs. 30,000/-. The Labour Welfare Centres were fully involved in the events, conducted in this regard.

4. Craft Section

The Craft Instructor is incharge of this section. Tailoring, stitching, Knitting, embroidery and cooking are taught to the female workers and the female members of the workers' families. The finished goods stitched and prepared at the Centre are sold with the permission of the Commissioner of Labour.

5. Nursery School Section

The Nursery School Teacher is incharge of this section. Nursery Classes are held for the children of the workers. Games are also conducted for the children.

6. Health Section

The Health visitor is incharge of this section. She has to visit houses in the Labour Colony and educates the working class in cleanliness and environmental hygiene, advise women of the working class in matters of pre and post natal maternity cases, arranges health classes for female workers, gives general instructions in health, hygiene, child welfare etc., looks after the creche of the centre and arranges supply of milk to the children, attends to first aid wherever necessary and also gives medicines for minor ailments. They have to take up the family planning survey by visiting atleast 30 families of workers every day.

The Welfare Organiser is incharge of the Labour Welfare Centre. In addition to the supervision of the work of the staff, the Welfare Organiser should contact the managements of the factories, labour leaders and other active workers who evince keen interest in the programmes of the Centre in order to enlist their cooperation for conducting tournaments, cultural programmes and such other activities. He should organise picnics and visits to local historical places for the workers and obtain the cooperation of managements in this regard and to organise sports and cultural programme for the workers.

The Labour Welfare Centre has an Advisory Committee. It consists of 4 representatives of non-official (two each from the management and the workers). The term of the committee for 2 years. The concerned Deputy Commissioner of Labour is the Chairman of the Committee and the Asst. Com-

missioner of Labour concerned is the Secretary of the Committee. The functions of the Committee are as follows :

1. To make recommendations in the matter of working of the Welfare Centres.
2. To review the working of the Welfare Centres and to suggest ways and means to improve the activities in the Centres.
3. To help in organising various programmes.
4. To conduct annual sports, cultural and other competitions.
5. To arrange for the distribution of prizes through donations and voluntary contributions, to the workers participating in the competitions.

A draft bill on the Andhra Pradesh Labour Welfare Fund Act, 1970, as prepared and sent to the Government in June, 1970. The purpose of the fund proposed to be collected is to meet the community necessities of social education, reading rooms, libraries, games and sports, excursions tours and holiday homes etc.

NOTE ON THE ANDHRA PRADESH LABOUR WELFARE FUND BILL

A draft bill for constitution of Labour Welfare Fund in Andhra Pradesh drawn on the lines of the Bombay Labour Welfare Fund Act, 1953 was submitted to the Government to bring a legislation.

The salient features of the draft bill are as follows :

The Andhra Pradesh Labour Welfare Fund Bill is intended to provide for the constitution of a fund for financing of activities to promote welfare of labour in the State and for establishment of a Board for conducting the activities and other matters connected therewith.

It is intended to extend the provisions of the proposed legislation to the workmen employed in Factories as defined in Section 2 (M) of the Factories Act, 1948, Motor Transport Undertakings as defined in the Motor Transport Workers Act, 1961 and any other establishments as defined in Section 2 (10) of the Andhra Pradesh Shops and Establishments Act, 1966 including registered Societies, Charitable or other Trusts, whether registered or not, which carries on any business or trade or any work in connection with or ancillary thereto and which employ 20 or more persons, but does not include an establishment not being a factory belonging

to or under the control of the Central or the State Government.

The Fund is proposed to be constituted by crediting the following amounts :

1. Unpaid accumulations, i.e., all payments due to the employees, but not to paid them within the period of three years from the date on which they became due including the wages and gratuity legally payable, but does not include the amount of contribution, if any paid by an employer to Provident Fund.
2. All fines realised from the employees by the employers.
3. Deductions made under sub-section (2) of section 9 of the payment of Wages Act.
4. Contributions by employers and employees (every employee shall contribute Re. 1/- per year to the fund and every employer shall in respect of each employee, contribute Rs. 2/- per year to the fund.
5. Any interest by way of penalty paid under section 9 of the Bill.
6. Any voluntary donations.
7. Any amount raised by the Board from other sources to augment the resources of the Board.
8. Any fund transferred under sub-section 5 of section 12 of Bill.
9. Any sum borrowed by the Board.
10. Grants or advances made by the Government to the Board to the extent of the Fund available for the purpose of the Act.
11. Any compensation paid by the employers under the Workmen's Compensation Act, 1923 but remained undisbursed.

The board with the approval of the Government, make grant out of the fund to any employer, any local authority or any other body in aid of any activity for the Welfare of Labour approved by the Government.

The Welfare Fund is proposed to be administered by a Board consisting representative of Employers and Employees and independent members i.e. Secretaries to Government in Labour, Finance and Industries Departments and a member to represent women. For the purpose of advising the Board in the discharge of its functions, the Board may constitute one or more committees consisting of atleast one member of the Board and equal number of representatives of the employees and employers.

The Welfare Commissioner will be the Principal Executive Officer of the Board. The Board, with the previous approval of the Government, appoint an officer of the Labour Department not below the rank of Joint Commissioner of Labour, as Welfare Commissioner. The Government may appoint as many Inspectors as required. The Board shall have power to appoint such officers and clerical and executive staff as it thinks fit to carry out the purposes of the Fund and to supervise the control the activities of any other body financed from the Fund.

The Welfare Fund is proposed to be utilised by the Board to defray Expenditure on the following :—

1. Labour Welfare Centres under the Control of the Labour Department.
2. Reading rooms and Libraries.
3. Games and Sports.
4. Community Necessities.
5. Excursions Tours and Holiday Homes.
6. Entertainment and other forms of recreation.
7. Home industries and subsidiary occupation for women and unemployed persons.
8. Corporate activities of social nature.
9. Vocational training.
10. Convalescent homes for Tuberculosis patients.
11. Pre-schools.
12. Nutritious food to children of employees.
13. Construction and maintenance of Labour Welfare Centre Buildings.
14. Cost of administering the Act, including salaries etc., of the staff appointed for the purpose of the Act.
15. Medical aid to employees for specialised treatment in deserving cases.
16. Such other objects as would in the opinion of the Government improve the standard of living and ameliorate the social conditions of labour.

The board with the approval of the Government, make grant out of the fund to any employer, any local authority or any other body in aid of any activity for the welfare of Labour approved by the Government.

The Bill provides for the procedure to be followed in respect of the unpaid accumulations transferred to the fund and claims thereto.

The Government may give to the Board such directions as in their opinion are necessary or expedient in connection with the expenditure from the Fund or for carrying out the purposes of the Act; and it shall be the duty of the Board to comply with all such directions. The Government or any officer authorised by them may call and examine the records of the Board for the purpose of supervising the working of the Board and may pass such orders as they may think fit. The Board shall after the end of each year prepare and submit to the Government a report giving an account of its activities during the previous year.

If the Government are of the opinion that the board is unable to perform or has persistently made default in the performance of, the duty imposed on it by or under the Act or has exceeded or abused its powers, they may, by notification supersede the Board for a period not exceeding six months as may be specified in the notification and extend the period of supersession for such further period not exceeding six months and reconstitute the Board in the manner provided in the Act.

Government are authorised under the Act to make Rules on the related matters and the Board is authorised to make regulations on the service matters of the staff and other related matter.

The State Government through their letter No. 1247/Lab.III/79-6, dated 6-1-1982 sent the draft bill i.e., "The Andhra Pradesh Labour Welfare Fund Bill" to the Government of India Ministry of Labour for the concurrence for undertaking legislation in the state, since the subject matter of the said Bills falls within the concurrent list. The matter is pending with the Government of India.

In continuation to the note received from the Director of Employment & Training and The Commissioner of Labour. The following statement relating to the :

- (1) District-wise number of working Factories & Workers 1982.
- (2) Working Population by Industrial Category and Sex-Rural and Urban 1981.
- (3) Proportion of workers to total population (percentage) and their distribution into Board Categories.
- (4) Labour situation 1981 to 1984.
- (5) Members of placements effected and number on the Live Register of Employment Exchange, 1973-74 to 1983-84.
- (6) Industrial disputes and Man-days Lost in Major Industries 1977 to 1981.

TABLE 1

Sl. No.	District	No. of working factories			No. of workers employed		
		Public	Private	Total	Public	Private	Total
1.	Srikakulam.	6	224	230	927	3,686	4,613
2.	Vizianagaram	6	227	233	1,199	12,773	13,972
3.	Visakhapatnam	35	524	559	17,472	13,741	31,213
4.	East Godavari	36	1,549	1,585	2,833	28,962	31,795
5.	West Godavari	28	1,234	1,262	2,688	34,707	37,395
6.	Krishna	52	1,641	1,693	5,362	20,932	26,285
7.	Guntur	56	2,453	2,509	2,939	77,860	80,799
8.	Prakasam	7	600	607	813	56,226	57,039
9.	Nellore	14	625	639	1,182	5,644	6,826
10.	Chittoor	25	406	431	3,702	6,849	10,551
11.	Anantapur	24	400	424	2,763	4,315	7,078
12.	Cuddapah	9	372	381	3,364	6,537	9,901
13.	Kurnool	25	523	548	2,301	12,986	15,287
14.	Hyderabad	79	1,905	1,984	20,961	49,876	70,837
15.	Nalgonda	25	532	557	1,764	5,888	7,652
16.	Mehaboobnagar	17	254	271	956	3,644	4,600
17.	Karimnagar	19	376	395	3,456	3,606	7,092
18.	Adilabad	11	150	161	1,702	11,299	13,001
19.	Nizamabad	13	540	553	3,013	12,594	15,607
20.	Khammam	19	477	496	2,728	3,647	6,375
21.	Warangal	18	575	591	3,601	4,374	7,975
22.	Ranga Reddy	12	410	422	11,314	15,152	26,466
23.	Medak	13	383	396	8,133	15,666	23,799
Total :		547	16,380	16,927	105,173	4,10,955	5,16,128

Source : Director of Factories & Boilers.

TABLE 2
INDUSTRIAL DISPUTES AND MANDAYS LOST IN MAJOR INDUSTRIES
1977 to 1981

Year	Strikes	Lockouts	No. of workers involved	No. of Mandays lost
1977	47	53	32,000	5,77,000
1978	100	17	52,964	6,73,763
1979	108	8	59,580	5,47,376
1980	104	17	53,098	6,17,466
1981	94	13	42,510	13,82,407

Source : Commissioner of labour, Andhra Pradesh.

TABLE 3

**MEMBERS OF PLACEMENTS EFFECTED AND NUMBER ON THE LIVE REGISTER OF
EMPLOYMENT EXCHANGE, 1973-74 TO 1983-84.**

S. No.	Year	No. of placements effected (in lakhs)	No. of live Register at the end of the year (in lakhs)
1.	1973-74	0.31	4.92
2.	1974-75	0.26	5.89
3.	1975-76	0.39	6.11
4.	1976-77	0.53	7.21
5.	1977-78	0.48	8.41
6.	1978-79	0.48	10.72
7.	1979-80	0.34	13.11
8.	1980-81	0.26	15.00
9.	1981-82	0.31	16.31
10.	1982-83	0.34	18.65
11.	1983-84	0.37	20.64

Source : Director of Employment & Training.

TABLE 4

LABOUR SITUATION 1981 TO 1984.

Year/Month	No. of Industrial Disputes	No. of Workers Involved	No. of Mondays lost
1981	107	42,510	13,82,407
1983	201	1,41,426	10,00,108
1984(P)	81	1,15,004	13,47,473

Source : Commissioner of labour, Hyd.
(P) : Provisional.

TABLE 5

**PROPORTION OF WORKERS TO TOTAL POPULATION (PERCENTAGE) AND THEIR DISTRIBUTION
IN TO BROAD CATEGORIES**

		WORKERS			MARGINAL WORKERS			NON-WORKERS		
		Persons	Male	Female	Persons	Male	Female	Persons	Male	Female
1981	Total	42.18	56.16	27.87	7.69	4.57	10.88	50.13	39.27	61.24
	Rural	45.76	58.48	32.85	8.34	4.69	12.04	48.90	36.83	55.11
	Urban	30.36	48.82	11.11	5.58	4.02	7.02	64.06	47.18	81.87
1971	Total	41.39	58.21	24.16	2.00	0.17	3.88	56.61	41.62	71.96
	Rural	43.94	60.24	27.37	2.32	0.18	4.50	53.74	39.58	68.13
	Urban	30.73	49.90	10.54	0.63	0.11	0.18	68.64	49.99	88.28

Source : Census of India 1981 Paper -I of Andhra Pradesh 1981.

TABLE 6

**WORKING POPULATION BY INDUSTRIAL CATEGORY AND SEX—
RURAL AND URBAN 1981**

(In lakhs)

Sl. No.	Category	Rural			Urban		
		Persons	Males	Females	Persons	Males	Females
1.	Cultivators.	71.87	54.33	17.54	1.84	1.52	0.32
2.	Agricultural Labourers.	78.73	38.21	40.51	4.19	2.31	1.88
3.	House hold. Industry.	9.50	6.01	3.49	2.77	1.80	0.97
4.	Other workers.	28.14	22.63	5.51	29.03	25.46	3.57
	Total	188.24	121.18	67.05	37.83	31.09	6.74

Source : Census of India 1981— Per I of Andhra Pradesh.

REPORT ON HOUSING IN ANDHRA PRADESH

BRIEF DESCRIPTION OF ANDHRA PRADESH STATE

Andhra Pradesh came into existence on 1st November, 1956. When states in India were recognised on linguistic basis. It is four largest state of India, spreading over an area of 274700 sq. km. and its present population is estimated to be about 5 crores and 16 lakhs. Hyderabad is the capital of Andhra Pradesh which is one of the metropolitan cities of the country.

The State is divided into 22 districts for administrative purposes. Naming the districts in clockwise order from the North-East, they are Srikakulam, Visakhapatnam, East Godavari, West-Godavari, Krishna, Guntur, (Now Ongole also), Nellore, Chittoor, Cuddapah, Anantapur, Kurnool, Mahbubnagar, Hyderabad, Medak, Nizamabad, Adilabad, Karimnagar, Warangal, Khammam and Nalgonda districts. The State of Andhra Pradesh came into being by tagging on the Telugu speaking districts of the erstwhile Hyderabad state with the Andhra Pradesh that had already been formed out of the old composite Madras State.

THE HOUSING STATUS IN ANDHRA PRADESH

1. The total population of the Andhra Pradesh is 5.36 lakhs, and the urban population constitutes 23.25%.
2. The present housing stock in the urban areas as per 1981 census is, 13.7 lakhs residential houses.
3. The Housing shortage as per 1981 housing units in the urban areas is 7,25,000.
4. Supply of Housing by both public & private sectors in urban areas as per 1981 census. is 3,24,626.
5. A total of 22 lakhs houses have to be constructed of various categories to meet current housing demand in the urban areas of the State.

In Andhra Pradesh too, housing had failed to keep pace with the increased demand. Thus in the decade 1961-71, the increase in the number of houses at 15.22% fell short of growth of population and households at 20.91% and 17.22% respectively. The shortage is particularly acute in the urban areas where the number of houses increased by 19.63% only as against the increase in population and house-holds at 33.92% and 30.83% respectively. One estimate places the current backlog of housing at 18.66% lakhs, of which, the Hyderabad metropolitan area itself accounts problem is to less serious in rural areas though it had not surfaced as conspicuously at an urban area. It is particularly acute in case of persons belong to the weaker section such as Harijans and Girijans, who live in squalid and congested conditions.

HOUSING AGENCIES—PUBLIC & PRIVATE SECTORS IN THE STATE

PUBLIC STATE SECTOR

- (1) Andhra Pradesh Housing Board.
- (2) The Andhra Pradesh Co-Op. Housing Federation.
- (3) Urban Development Authorities.
- (4) Andhra Pradesh infrastructure corporation.
- (5) Andhra Pradesh State Police Housing Corporation.
- (6) Andhra Pradesh State Housing Corporation.
- (7) Weaker Section Housing.
- (8) Andhra Pradesh Housing Corporation.
- (9) Municipal Corporation.

CENTRAL SECTOR

The Housing for various institutions which are established throughout the state, specially, BHEL, ECIL, Midhani, Railways, for the employees housing.

PRIVATE SECTOR

The Housing sector with the private entrepreneurs have contributed much in many urban areas of Andhra Pradesh with industrial houses and multi-storied flats.

THE HOUSING PROFILE FOR HYDERABAD CITY

According to 1981 census there are 3,41,999 occupied residential houses as against 4,37,452 households in Hyderabad city. The corresponding figure for the Hyderabad Development Area excluding MCH Area are 1,16,170 residential houses and 1,31,345 households.

A substantial percentage of houses can be classified as Kutchas with practically no amenities and may be treated as not fit for human habitation.

It is estimated that 16% of total population in the city is residing in slum areas. Therefore, it is assumed that 20% of the houses in city and about 15% in outside area would be required to be added to the housing requirement to get the real housing shortage.

It is estimated that the housing shortage in Hyderabad Area is 1,27,801 dwelling units as on 1981.

ESTIMATE OF CURRENT HOUSING SHORTAGE—1981

Sl. No.	Particulars	Hyderabad City	HUDA excluding Hyderabad city	Hyd. Development Area
1.	No. of households	4,37,452	1,31,348	5,68,800
2.	No. of houses	3,41,499	1,16,170	4,57,669
3.	No. of households requiring Separate accommodation (1-2)	95,953	15,178	1,11,131
4.	Houses requiring replacement (15% of HOUSING STOCK) Apparent shortage dwelling units	14,393	2,277	16,670
		1,10,346	17,455	1,27,801

*Source : Derived from data obtained from Census of India.

The above table indicates that assuming a family size of 5.5 persons per household, the number of houses to be provided for increasing population.

HYDERABAD DEVELOPMENT AREA

ANNUAL HOUSING REQUIREMENTS BY TYPE OF DWELLING UNITS

Sl. No.	Type	Percentage of Households in each category	Dwelling units Required
1.	Economically Weaker Section	40.0	14,000
2.	Low Income Group	30.0	10,500
3.	Middle Income Group	25.0	8,750
4.	Higher Income Group	5.0	1,750
		100.0	35,000

HOUSING REQUIREMENTS FOR FUTURE POPULATION

Year	Population	Additional population	Number of units Required
1981	28,50,156	11,56,799	2,10,327
1991	40,16,955	11,56,799	2,10,327
2001	58,47,894	18,30,939	3,32,898
		29,87,738	5,43,225

ONE HOUSEHOLD—5.5 persons.

To solve this housing shortage in the next 15 to 20 years, the annual rate of construction should be 40,000 dwelling units of lower income category who form the majority without shelter.

The category of population is based on the income status, which is vague in certain respects of households since the urban strata falls three different sections, Lower Income Group, Middle Income Group & Higher Incomes. Therefore much emphasis is to be stressed on the economically weaker section & lower income category, which faces a grave situation in any urban metropolis in the city or in the country.

PRESENT HOUSING SITUATION

The city of Hyderabad has been experiencing only public agencies as the primary body for house building activity for the past 20—25 years. The private agencies have also been contributing ever since financial institutions started financing the Housing projects & Schemes undertaken have also been successful, contributing the total housing stock of Hyderabad.

The public agencies have so far constructed 52,686 houses which constitutes only about 11% of the housing stock. The details of number of houses is given below :

1. HUDA	4,459
2. APHB	15,778
3. APHC	1,002
4. MCH	10,314
5. AP Police Housing Corporation	3,189
6. Collector, R.R. Dist. Weaker Section, Housing	600
7. LIO	60
8. Public Sector undertaking staff housing, BHEL, ECIL, MIDHANI, NFC, ECIL, HAL, IDPL etc.	11,600
	52,686

HUDA's EFFORTS

The Hyderabad Urban Development Authority has undertaken a programme for development of sites which is of unprecedented dimension. In the last 10 years of its existence, the HUDA has been able to develop nearly 10,000 house sites and houses put together, a bulk of which have gone to Government Employees etc. In the present sites and services programme, it is proposed to develop nearly 10,000 plots by the end of this year itself.

As per the Master Plan, HUDA has identified large tracts of land for undertaking comprehensive and integrated residential area development in phase-wise manner keeping in view, amongst other factors, the financial resources at its disposal.

APPROACH

It is evident that if the housing shortage is to be mitigated, about 40,000 dwelling units per year have to be constructed. In this, the role of public agencies like HUDA is of promotional nature. Thereby, HUDA proposes to take up sites and services approach to bridge the gap.

SITES AND SERVICES

The sites and services scheme is a low cost solution to the housing problem especially mitigating the large deficit is the economically weaker sections and the

low income category of the community. In this, HUDA's input is to assemble land, layout the plots, formation of access roads, footpaths and pavements as per standards, provisions of water supply, drainage and sewerage facilities, street-lighting, lands aping, provision of community facilities, and provision of off-site infrastructure facilities like arterial roads, trunk water and seware etc.

HOUSING SCHEMES UNDERTAKEN BY ANDHRA PRADESH HOUSING BOARD

The Andhra Pradesh Housing Board is constituted under an Act of Legislature called 'The A.P. Housing Board Act, 1956' as a successor to the Ex. City Improvement Board, Hyderabad and Ex. Town Improvement trust, Secunderabad and started functioning on 1-7-1960. It inherited 7,144 houses on its formation. Now the activities of the Board cover all the 23 districts of the State.

ACHIEVEMENTS

Since its formation, the Board has constructed 38,521 tenements including 7196 houses during 1985-86 the details of which are as follows :—

HIG	408
MIG	9170
LIG	21519
EWS	6154
Others	716
SHS	160
RHS	184
SCS	200
Total	38,511

75% of these tenements are for EWS and LIG allottees. A further number of 15,110 tenements costing Rs. 56.63 crores are under various stages of construction as indicated below :

MIG	144
HIG	6387
LIG I	7098
LIG II	1486
Others	3
Total	15118

During 1985-86 (upto 1/86) the HUDCO has sanctioned 10 schemes comprising 400 HIGH; 1043 MIG, 866 LIG I and 135 LIG II houses totalling to 3244 costing Rs. 12.06 crores comprising loan component of Rs. 8.25 crores. A.P. Housing Board received a sum of Rs. 400.00 lakhs from HUDCO as loan releases during 1985-86 (upto 1/86). The Board received a sum of Rs. 411.00 lakhs inclusive of Rs. 192.00 lakhs from open Market Borrowings from the Government as plan Funds during 1985-86. The Government also released Rs. 100.00 lakhs under Non-Plan.

SCHEMES UNDERTAKEN BY ANDHRA PRADESH STATE HOUSING CORPORATION

The Andhra Pradesh State Housing Corporation is dedicated to the social objective of providing shelter to the Weaker Sections of the society, predominantly consisting of Scheduled Castes, Tribes and Backward Classes. A minimum of 50% of the houses are meant for Scheduled Castes, 10% of Scheduled Tribes, 25% to Backward Classes and the remaining to other eligible beneficiaries. All those with an income less than Rs. 350/- per month are eligible for rural housing and those with an income less than Rs. 500/- p.m. are eligible for urban houses. These are the present norms adopted by us based on norms prescribed by Housing and Urban Development Corporation.

PHYSICAL ACHIEVEMENT

The corporation has so far constructed about 4,42,643 houses for the benefit of Scheduled Castes, Scheduled Tribes, Backward Classes and other Weaker Sections in the State. Out of them 85 to 90% of the houses are in rural area.

The caste-wise breakup of semi permanent rural, rural permanent and urban permanent houses taken up, year-wise in the state is as follows :—

Commu- nity	1983- 84	%	1984- 85	%	1985- 86	%
S.C's	61,336	47.54	59,585	47.73	65,038	48.04
S.T's	23,790	18.44	19,544	15.66	18,863	18.93
B.C's	35,936	27.85	34,819	27.89	41,046	30.32
Others	7,962	6.17	10,881	8.72	8,699	6.43
Total	1,29,024	100.00	1,24,829	100.00	1,33,646	100.00

URBAN DEVELOPMENT AUTHORITIES

Hyderabad Urban Development Authority was constituted under the A.P. Urban areas (Dev.) Act 1975 along with Planning and controlling of the growth at entire metropolitan area, it is even doing the housing actively. Housing shortage is very huge in the twin cities of the total housing shortage in A.P. of 1.86 million, Hyderabad nearly accounts for 1,00,000 units and to projection by HUDA this may even go upto 2,00,000 by 1981 HUDA along with other agencies trying to solve the housing problem, meditation to slum redevelopment activities.

The urban authorities at Visakhapatnam and Vijayawada are also taken keen interest to carry housing activities.

THE MEASURES ADOPTED BY THE STATE FOR THE EFFICIENT HOUSING PROGRAMMES TO MEET THE CURRENT DEMANDS :

The success in implementation of a massive house building programmes requires proper building material and high efficiency in the technical supervision and new technic in the construction methods. Several alternatives have been evolved for obtaining low cost housing by adopting several innovative technics.

- (a) Cost of land infrastructure at the desired levels.

- (b) Quality in extent of accommodation.
- (c) Quality in the levels of internal and external services.
- (d) Technics of construction.
- (e) Administrative Control.

The State has adopted certain cost effective methods which are aimed at :

- (a) Rationalising the standards of values of the services could be provided and of the dwelling unit which is to be constructed, so that they can conform to the live styles and affordability.
- (b) The economics in the values of building materials used particularly by mobilising under utilised such as local building materials and technics for which the cost to the beneficiaries low.
- (c) By encouraging self help and mutual help technics of construction which is possible by minimising the role of finance and overheads.
- (d) Increasing the efficiency of the construction methods by adopting cost saving technics particularly those which are labour intensive and could draw upon the unskilled labour of the beneficiaries.
- (e) To a great extent the state is adopting pre-fabrication technics and standardising them which ultimately result in economy and efficiency the use of material and construction. However while adopting free cost of technical, the following factors are kept in view :—
 - (A) The technic shall be such that it shall help to reduce the cost of building to a level less than the ones with traditional materials and technics.
 - (B) The technics shall be simple for designing and execution largely by semi-skilled and un-skilled labour in all parts of the state.
 - (C) It shall help to minimise the use of scarce and costly building materials like cement, steel, wood.

The Andhra Pradesh State has taken up number of housing schemes through the assistance of HUDCO, LIC and banks which constitute both urban and rural houses throughout the state. The state of Andhra Pradesh is largely financed by HUDCO (Govt. of India) for many urban areas especially to the Government institutions where the housing activity is very much in progress like Hyderabad, Vijayawada, Vishakhapatnam, Tirupati, Guntur, Warangal etc.

THE HOUSING POLICY PERSPECTIVE FOR THE STATE IN THE CONTEXT OF URBANIZATION IN 2001 A.D.

1. To provide low cost houses for all categories of people suiting economically and socially to the existing environment.
2. To provide house sites and facilities with necessary infrastructure with affordable prices specially to the lower classes and down trodden in the urban areas.
3. To induce industrial workers to build houses adjacent to the factories.
4. Establishing a gap to with-stand rural to urban migration.
5. To provide housing facilities by various housing Corporations and through rental housing schemes.
6. To make substantial effort in the state towards slum clearance and environmental improvement in the urban areas.
7. To promote and encourage self help housing.
8. Establishing factories for new building materials with innovative technics.
9. The price control of building materials in different ways such as standardising the products.
10. Fixing the rent pattern in the State.
11. Developing proper management in house building methods.
12. Policy on land availability.
13. Creation of advance building construction methods and training to all technical personnel throughout the state.

SECURITY, SAFETY & VIGILANCE ASPECTS IN URBAN AREAS

Hyderabad City is the sixth largest City in the country according to the census of 1981. Like any other metropolitan Cities, this City has also witnessed population increase during the twentieth century, particularly, during the last 3 or 4 decades. While the population of the City in 1901 was 4.5 lakhs, it shot upto 25 lakhs in 1981. Various developmental schemes launched by the Government with more emphasis on industrialisation have already set the City and surrounding areas on a course of rapid urbanisation with all the concomitants of such change. The Ranga Reddy District, which surrounds the City has many industries in the area adjacent to the City limits and this industrialisation of the adjoining areas of the City has its own impact on the Law and Order and Crime Position of the City. This transformation has its impact on the behaviour and attitude of the people influencing the trend and pattern of Crime. The Police force of the City had in the past confronted several problems, like political agitations, communal disturbances, industrial disputes, extremist menace of lesser degree and etc. The Police force with a strength of 1931 armed and 5537 unarmed force of the City (Total 7468) during 1985, though appears to be adequate, is not ideal to deal with situations more effectively. Though Police force of the City has been increased slightly in the last two decades, there is imperative need to increase the strength considerably for effective policing of the City, particularly in the compartments of City Crime Branch, City Armed Reserve and Traffic Police which are absolutely inadequate.

The Hyderabad City Police Act came into force in 1938 with a Commissioner of Police as head of the City Police. The suburban areas falling in the jurisdiction of Ranga Reddy District with rapid urbanisation due to location of industries, creation of satellite townships and springing up of new residential colonies has been posing immense problems of policing the area due to far flung location of residential colonies and isolated houses which became vulnerable to the depredations of the dacoits. Industrial unrest has become a common phenomenon in this industrial area requiring deployment of huge Police force for maintenance of law & order. None of the Police Stations of Ranga Reddy District, surrounding Hyderabad City is fully equipped either by way of man-power or transport or communication to deal with the existing Crime and Law & Order problems of the industrial area. The City jurisdiction is neither co-terminus with the Hyderabad Urban Revenue District nor the Municipal Corporation limits. Similar is the case with the jurisdiction of Ranga Reddy District.

One Man Police Commission, headed by Sri K. Ramachandra Reddy, retired Inspector General of Police, Andhra Pradesh, has suggested to bring the following suburban Police Stations of Ranga Reddy District to City jurisdiction :

1. Sanathnagar.
2. Balanager.

3. Alwal.
4. Malkajgiri.
5. Kushaiguda.
6. Uppal.
7. Saroornagar and
8. Raidurga.

and if this is done the Commission also suggested for the creation of one more Zone with a Dy. Commissioner of Police incharge of the Zone area. Considering various circumstances prevailing in law & Order and crime fields, it appears to be necessary to add these eight suburban police stations to the City for effective policing so that there could be contiguity of the jurisdiction and better policing in industrial areas.

Many V.V.I.Ps. and V.I.Ps. visit Hyderabad, Begumpet Airport which has been a domestic airport, has attained partly the status of International Airport and it is likely to become a full-fledged airport in future. In view of mounting terrorism in the country, there is need to intensify security measures at the Airport and other places of halt of the V.V.I.Ps. and V.I.Ps.

CITY POLICE SET-UP

The City is divided into Zones. There are four Zones namely (1) East Zone, (2) West Zone, (3) South Zone and (4) North Zone and each zone is under the charge of a Deputy Commissioner of Police. Each Zone is divided into Division of 3 to 4 depending upon the area and problems of the area. There are 13 Divisions in the City and each Division is divided into 4 to 6 Police Stations and each police station is under the charge of an Inspector of Police. There are 58 Police Stations at present in the City. The strength of each Police station on the average is 3 to 4 Sub-Inspectors, 6 to 8 Head-Constables and 40 to 60 Police constables. The head of the City Police is the Commissioner of Police and he is assisted by an Additional Commissioner of Police and the Dy. Commissioner of Police, Administration, besides the Zonal Dy. Commissioners of Police. There are separate Dy. Commissioners of Police for Traffic and Special Branches. The latter is meant for collection of Intelligence. A City Crime Station has been formed in 1984 under the charge of a Dy. Commissioner of Police to deal with important offences against property and white-collar offences. The City Armed Reserve, which is the armed wing of the City Police is under the charge of a Dy. Commissioner of Police. Thus, the Commissioner of Police is assisted by the Additional Commissioner of Police and 9 Dy. Commissioners of Police in the course of policing the city.

The problems of the Police are generally in the following fields :

1. Law & Order.
2. Crime.
3. Collection of Intelligence and
4. Traffic.

I. LAW AND ORDER :

The main law & order problem of the City has been dealing with communal disturbances. The following (30) Police Stations have been identified as communally hypersensitive :

1. South Zone :

1. Charminar
2. Bahadurpura
3. Hussaini Alam
4. Kamatipura
5. Chandrayangutta
6. Chatrinaka
7. Shah Ali Banda
8. Shamsheergunj
9. Chaderghat
10. Mirchowk
11. Mogalpur
12. Rein Bazar
13. Dabeerpura
14. Madannapet
15. Malakpet
16. Saycedabad
17. Santoshnagar
18. Bhavaninagar
19. Kalapather.

2. West Zone :

1. Habeebnagar
2. Mangalhat
3. Shah Inayatgunj
4. Asifnagar
5. Tappachabutra
6. Kulsumpura
7. Golconda
8. Humayun Nagar and
9. Langer Houze

3. East Zone :

1. Afzalgunj and
2. Amberpet.

Huge force, both armed and civil, have to be deployed in these communally sensitive areas to preserve peace, particularly, during important festivals Bonalu, Ganesh Immersion Day Ceremony, Ramzan etc. It is worthwhile to note that at one point of time about 200 armed platoons, besides the existing civil police have been deployed in these communally sensitive areas to control communal disturbances. This huge force reflects the gravity of the situation which warrants deployment of huge force for maintenance of law & order effectively. The existing civil force is found to be quite inadequate in these areas to tackle day-to-day problems. Even in the remaining Police

Stations also the strength is found to be inadequate. The Police Stations function on a shift basis. The strength of the Police Station is divided into four sections, excluding the man power required for property crime, Court work, investigation and maintenance of records. Thus one section, hardly gets about 6 to 8 Constables with one or two Head-constables to assist the Sub-Inspectors and the Inspector. These sections work from 8.00 A.M. to 1.00 P.M. from 1.00 P.M. to 9.00 P.M. and from 9.00 P.M. to 8.00 A.M. While only one section is available during day time, there will be two sections during night for patrolling in the Police station areas. Though the strength of a Police station appears to be considerably high with 45 to 50 Police constables, particularly there will not be more than 8 to 10 police-constables in each section. Considering leave, sick etc. there is need to increase the strength of each Police Station so that at least 15 P.Cs. are available in each section. This means that the strength of a Police Station should be about 65 to 75. The One Man Police Commission headed by Sri K. Ramachandra Reddy has also suggested strength of 1 Circle Inspector, 3 S.Is., 2 ASIs., 10 HCs and 65 PCs for A Class urban police station.

The other law & order problems that the City Police has been facing are :

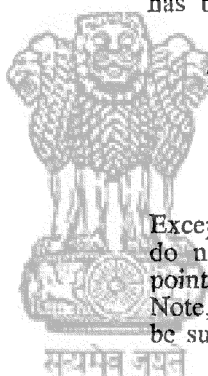
1. Political agitations
2. Land disputes
3. Industrial disputes and
4. Other types of problems resulting in rioting and hurt.

Except the political agitations, the remaining problems do not merit much discussion from the Commission point of view. If the man-power suggested in this Note, both armed and unarmed is sanctioned, it would be sufficient to meet the Political agitations also.

II. CRIME

The traditional crime i.e. crime against property by the professional criminals has been gradually on the increase not only in the City but also in the sub-urban areas of Ranga Reddy District. In fact the violent crime i.e., dacoities and robberies have steadily increased for the last two decades and this increase of violent crime has been causing great concern to the concerned Police. Dacoities and robberies have gone up from 38 in 1970 to 80 in 1980 and 87 in 1985.

Total cognizable crime registered in 1970 under IPC in the City, which stood at 3472 cases, registered a phenomenal growth by 1980 with 7124 cases, with an increase of 105% over the base year of 1970 and this crime has further registered an increase to 7513 cases by 1985 with a growth rate of 116% over the base year. This type of increase in crime has been noticed in almost all heads of crime i.e. Murder, Dacoity, and Robbery, etc. The violent crime i.e. dacoities with 38 cases in 1970 has gone upto 80 cases in 1980 with an increase of 110% and it further shot upto 87 cases by 1985 with a growth of 129% from the base year. Regarding the growth of population, it has increased from 14 lakhs in 1970 to 25 lakhs by 1980 and to about 30 lakhs by 1985, registering



a growth of 80% from 1970 to 1980 and 120% by 1985 over the base year. It could thus be seen that the crime rate out-paced the population growth in the decades from 1970 to 1980 and steadily maintained its growth. But the strength of the police force did not increase proportionately. While the total strength of the City Police force was 6029 in 1970, it has increased to 6800 by 1980 and to 7468 by 1985, registering an increase of only 15% during the decade from 1970 to 1980 and 25% by 1985. The number of Police stations has also not been increased proportionately. While there were 38 police stations in 1970, it has gone upto 50 P.Ss. by 1980 and 58 Police Stations by 1985. The following chart indicates the ratio between the Police and the population:—

Year	No. of P.Ss.	Police Station/Population	Police personnel Population
1970	38	1 45,000	1 280
1980	50	1 48,000	1 344
1985	58	1 51,000	1 400

It could be seen that Police and population ratio and Police station/population ratios have decreased considerably. Thus there is imperative need to increase the strength of City Police immediately. Inter-State criminals, particularly from Maharashtra, Delhi and U.P. have been committing violent crime in the City and more in suburban areas of Ranga Reddy District. The Police stations are not fully equipped either by way of man-power or transport or communications to meet this challenging task of safeguarding the properties of the citizens and providing security to them. There is every need to increase the strength in the dacoit prone areas considerably by raising special armed platoons so that they can be deployed for night patrolling in vulnerable areas along with the civil police to create confidence in the public and to prevent the occurrence of violent crime and to nab the culprits.

The following 21 Police Stations of the City have been identified as dacoit prone areas :

1. **North Zone :**

1. Bolarum
2. Bowenpally
3. Trimulgherry
4. Lallaguda
5. Begumpet
6. Tukaramgate
7. Marredpally

2. **East Zone :**

1. Osmania University
2. Amberpet.

3. **South Zone :**

1. Malakpet
2. Sayeedabad

3. Chandrayangutta
4. Shamsheergunj
5. Bahadurpura
6. Santoshnagar
7. Madannapet.

4. **West Zone :**

1. Golconda
2. Tappachabutra
3. Jubilee Hills
4. Bonjara Hills
5. Sanjeeva Reddy Nagar.

Besides these police stations of the City, 8 police stations of Ranga Reddy District, which are adjacent to the City limits are more prone for dacoits :

Considering the rate of growth of violent crime over the last two decades, the incident of dacoities and robberies is likely to go up further by 21st century and therefore there is urgent need to augment deployment of armed police for effective policing of the area. Along with the sanctioning of additional armed police the required number of supervisory officers and the vehicles fitted with wireless sets should also be sanctioned.

There are 8 important roads leading to the City from suburban areas. There is the need to check vehicles for movement of criminals gangs in the outskirts of the city and to pass on information but this is not being done properly near for want of proper communication system. This could be achieved by opening of out-posts on the following roads in the City outskirts :—

1. Hyderabad—Balanagar
2. Hyderabad—Kurnool
3. Hyderabad—Vijayawada
4. Hyderabad—Nagapur
5. Hyderabad—Warangal
6. Hyderabad—Karimnagar
7. Hyderabad—Nizamabad
8. Hyderabad—Srisailam

These out-posts have to be manned round-the-clock supported by minimum one section of armed force to meet by any eventuality. It can work on shift basis and each shift being under the charge of a S.I., who will be assisted by two H.Cs. and 4 P.Cs. besides the armed complement. The S.I. incharge of the Out-post is to be provided with a vehicle and a V.H.F. set, besides stationery V.H.F. set U.P. building.

Economic Offences

This type of offences such as smuggling, hoarding, black-marketing, fraud embezzlement licensing rockets; unethical business practices, etc. pose a greater danger to the community than the conventional offences against property. Investigation of these cases requires expertise requiring skill and sustain

investigations. At present there is no separate agency to deal with the cases of this type. There is need to centralise investigation of these economic offences by forming a separate Cell which could be under the charge of a Deputy Commissioner of Police. He may be assisted by 3 or 4 Assistant Commissioners of Police, who will be assisted by investigation Teams and each Team comprising of one Inspector, 3 or 4 S.Is., 3 or 4 H.Cs. and equal number of Constables. About 400 cases only pertaining to embezzlement and cheating cases have been registered during the last two years in the City. Considering various aspects, it is likely that the figure under economic offences for City and suburban areas of Range Reddy District may touch about 2000 in a year, to investigate which, about 20 teams are required and all these teams have to be provided with vehicles and communication.

III. COLLECTION OF INTELLIGENCE

At present there is a Deputy Commissioner of Police incharge of Intelligence Wing of City Police to collect Intelligence about various aspects and persons pertaining to the policing of the City. Their main task is to collect intelligence regarding communal disturbances, political agitations, students, extremists and also to provide security to the V.V.I.Ps. and V.I.Ps. staying in and visiting Hyderabad. At this stage a word may be said about the Airport. Hyderabad Airport has recently attained partly international status and by the end of this century it is likely to become a full-fledged international airport, which require, a full set-up of policing for vigilance and security like other international airports at Delhi or Madras, etc.

The existing man-power of the City Special Branch 1 D.C.P., 3 A.Cs.P., 13 Inspectors 31 S.Is., 93 H.Cs. and 71 P.Cs. is quite inadequate to meet the demands. Enormous pressure has been put on the man-power recently in verification of passports because of opening of the passport office as many residents of Hyderabad go abroad seeking employment in gulf-countries. It is estimated that about 30 000 people are employed in gulf-countries and if the present trend continued this number may further go up. Thus, the strength of the existing Special Branch requires augmentation considerably. It is suggested that the existing strength may be doubled.

IV. TRAFFIC BRANCH

Urbanisation has its own impact on the traffic problems also. The measures undertaken for traffic safety and implementation of traffic rules and regulations and innovative methods of traffic control in the Hyderabad City are as follows :

1. Junction improvements undertaken with the help of traffic cell of Hyderabad Urban Development Authority (HUDA) :—It has been observed that most of the accidents occur at the junctions. The junction improvements have helped in reducing the accidents.
2. Modern traffic signals with pedestrian crossing facility :—In nearly 50% of the traffic accidents pedestrians are the victims. These

signals have helped in improving pedestrian safety.

3. Regarding Traffic Rules and Regulations :—

The introduction of 'on the spot fines' on erring motor vehicle drivers had led to better traffic control. There is need to extend this provision of 'on the spot files' to cycles, cycle-rickshaws, Bullock-carts etc. also (non-motorised traffic).

Regarding constraints in improving traffic control and reducing accidents, finances are the main constraint. Totally about 150 signals are required in the city. Each signals costs around 1½ lakh rupees. Including the cost of synchronisation by means of computerisation total amount required immediately is about Rs. 3.00 crores. Upto 2001, another three crores will be required as by then more junction will have to be signalized. Similarly 300 more junctions in the City required junction improvements.

Man power is another constraint. By 2001 A. D. the total requirement of Traffic Police strength is projected to be about 1600 as against 600 now, which means annual increase in expenditure by about rupees two crores.

V. CITY ARMED RESERVE

The City Armed Reserve is the armed Wing of the City Police. The bulk of duties performed by them relates to guards for V.V.I.Ps. and V.I.Ps., vital installation, banks and escorts of prisoners and cash. Quite often this force was called upon in the past to provide substantial man-power for law & order duties also. This created sufficient pressure on the man-power leading to indiscipline, unauthorised absence, affecting their morale, and lowering of efficiency, etc. The strength of the City Armed Reserve at present is 36 Platoons. The break-up is :

1. One Dy. Commissioner of Police.
2. One Addl. Commandant.
3. Two Asst. Commissioners of Police.
4. Nine Reserve Inspectors.
5. 37 R.S.Is.
6. 32 A.R.S.Is.
7. 416 H.Cs.
8. 1443 P.Cs.

The total strength is 1941 in 8 ranks. This force has to provide about 400 drivers also from this existing strength to drive about 240 vehicles. Considering their duties, this force is found to be inadequate. Proposals have already been sent for increasing the force. There is a justifiable need for increase of this force by a minimum of 20 Platoons for performing regular duties like escorts, guards, etc. and to provide man-power for law & order duties also occasionally. Regarding arms and ammunition, this armed wing is supplied with .303 rifles and few sten-guns also. Corresponding to the increase of the man-power, more arms and ammunition will have to be supplied.

It has been experiences while dealing with violent crowds that the existing armed force is not equipped with any riot control equipments for effective disposal of violent crowds, as in many other countries where

special force has been trained to tackle violent crowds and they are fully equipped with different devices to deal with violent crowds. The same pattern also is required to be adopted in this city also. Considering the area and problems of the City, it would be better if four platoons are trained for this special task and are equipped with riot control equipment and other requirement devices.

TRANSPORT

There are 239 vehicles of various types attached to the City Police. The break-up is as follows :—

1. Cars	17
2. Jeeps	92
3. Motor-Cycles	63
4. F. C. Jeeps	19
5. Medium vehicles	29
6. Big vehicles (5-tonners)	19

Though this fleet appears impressive but in practice it has been found to be quite inadequate, particularly during important bandobust occasions and there are still a few Police stations and officers of the rank of Inspectors and Asstt. Commissioners of Police, who are not provided with vehicles. On many occasions private vehicles were also hired paying huge amount running into lakhs rupees under hire-charges. All Police stations and all officers of the rank of Inspectors and above should be provided with a vehicle fitted with a wire-less set. If this is considered, about 50 more vehicles preferably jeeps are required for City Police. If sub-urban areas of Ranga Reddy District are also taken into City Police jurisdiction the Superintendent of Police, R. R. Dist. feels that a minimum 50 vehicles are required for industrial area for better policing. Thus a total of 100 jeeps may be required by 21st century.

WOMEN POLICE

The necessity of having Women Police to assist the civil police in day-to-day administration need not be over emphasized. They are required to face agitations ladies, to interrogate women offenders and to assist police in investigation of cases involving ladies i.e. rape, dowry, deaths, harassment to ladies, juvenile delinquencies, escort of lady prisoners, etc. At present there is only one Police station in the City comprising of :

1. One Inspector.
2. 3 S.Is.
3. 15 H.Cs. and
4. 32 P.Cs.

This strength also has to cater to the needs of Airport, where 4 S.Is. are deployed for security check of women passengers. As the Airport attains international status in future, this strength has to be increased considerably. Considering various problems of the City, there is need at least to double this Women force by opening another Police Station in Secunderabad area and both the Police stations can be brought under the charge of a Women Asstt. Commissioner of Police.

HOME GUARDS :

This is a voluntary organisation which has been assisting the civil police in traffic and patrolling crime prone

areas. At present 2090 Home-Guards under the charge of a Commandant, Home-Guards are working in the City. They have been of immense use and they were frequently utilised for law & order duties also. One more battalion of Home-Guards is required to assist the local Police by 2001.

MINISTERIAL STAFF

This is one agency which is generally forgotten and neglected as and when executive force is increased. The Ministerial assistance is a back-bone for the executive force. Unless there is sufficient ministerial strength, more increase of executive strength may not achieve desired results. One Man Police Commission headed by Sri K. Ramachandra Reddy has suggested re-organising of City Zones on the lines of District as in Delhi and if this is implemented each Dy. Commissioner of Police required a full-fledged district office as in rural areas. The present strength is 222. If recommendations of Anandaram Committee are to be considered this strength has to be increased by 50%.

MODERNISATION

Alongwith increase in transport and communication facilities, modernisation of Police force in the fields of computerisation also requires consideration. At present crime records are being computerised at state level in State Crime Branch. By 21st century there may be need to computerise many aspects of the administration like licensing, pay structure sanction of increments, leave personnel information etc. There is need to have one or two micro computers exclusively for City Police for better administration. One may be for crime records and the other for administrative purposes.

ACCOMMODATION

While the total strength of the City Police is about 7,468, only about 30% is provided with housing accommodation. As per the Police Commission guidelines, at least 75% housing accommodation should be provided. Similarly the Police stations which are not housed in rented buildings without even basic facilities are also required to be provided accommodation in Government buildings with basic facilities.

COST STATEMENT

FOLLOWING ARE THE APPROXIMATE REQUIREMENTS OF THE CITY POLICE BY 2001.

Sl. No.	Item	Existing	Proposed increase	Cost in lakhs
1.	Police Stations (adjoining areas of RR & City)	64	10	120
2.	A.R. Platoons	36	100	800
3.	Transport	239	100 100 jeeps	100
4.	Women P. Ss.	1	1	25
5.	Communication, Technical Service & Computers	—	—	50
6.	Quarters (residential & P.S. Buildings)	—	3500	3500
				4,595

COMMISSIONER OF POLICE

NOTE ON REVENUE LAND ACQUISITION LAND CEILING IN ANDHRA PRADESH

The Urban Land (Ceiling & Regulation) Act, 1976 (Central Act, 33 of 1976) came into force in our State on 17th February, 1976. It was enacted to prevent the concentration of the Urban Lands in the hands of a few persons for purposes of speculation and profiteering thereon with a view to bringing about an equitable distribution of land in Urban Agglomeration. The Act provides for the imposition of a ceiling on vacant land, acquisition & distribution of excess vacant land, regulation of construction of buildings and transfer of buildings and vacant lands situated within the Urban Agglomeration notified under the Act. There are five Urban Agglomerations in the State which are categorised as shown below with the ceiling limit of extent noted against each :

Sl. No.	Name of the Urban Agglomeration	Category	Retainable area
1.	Hyderabad	B	1000 sq. mts.
2.	Visakhapatnam	C	1500 sq. mts.
3.	Vijayawada	C	1500 sq. mts.,
4.	Guntur	D	2000 sq. mts.,
5.	Warangal	D	2000 sq. mts.,

The Commissioner, Land Reforms and Urban Land Ceilings has been authorised to supervise and co-ordinate the work of the Competent Authorities. The Government have constituted the Urban Land Tribunal consisting of the Commissioner, Urban Land Ceilings, under section 12 of the Act. The Commissioner, Urban Land Ceilings, has also been appointed as the Appellate Authority under section 33 of the Act.

Section 20 empowers the Government for grant of exemption of the excess land. Section 20 has been categorised into the following two categories.

- (i) Section 20(1)(a) : Public interest.
- (ii) Section 20(1)(b) : Individual hardship.

As the large number of industrial Units require exemption for the land held by them for running their industries, Government formulated guidelines in G.O.Ms. No. 931 Revenue dated: 12-8-1976. On the recommendations made by the Committee constituted for this purpose and as recommended by the Commissioner of Land Reforms and Urban Land Ceilings, Government are considering the grant of exemptions to the excess land held by the Industrial Units etc. In G.O.Ms. No. 1970 Revenue dated 13-12-1982 as amended in G.O.Ms. No. 436 Revenue, dated 23-4-1986 guidelines were issued for grant of exemption to the lands allotted by the A.P.I.L.C.

In G.O.Ms. No. 1797 Revenue dated 24-1-1978 it was considered that exemption may be granted to Agricultural lands also in public interest under section 20(1)(a) of the Act subject to certain conditions. No exemption shall be granted in respect of any land which is required for a public purpose and for which a requisition has been made or proceedings have been initiated under the Land Acquisition Act etc.

On the guidelines issued by the Government of India, Government have formulated guidelines in G.O.Ms. No. 186, Revenue dated 2-3-1977 and in G.O.Ms. No. 4270 dated 10-9-1980 for grant of exemption in respect of the excess land sold to the Co-operative Housing Societies. The guidelines were further liberalised in G.O.Ms. No. 136 Revenue dated 28-1-1981. The above guidelines came in for criticism and Government reviewed the matter and considered that public interest will be better served, if the housing plots are directly allotted to genuine and needy public instead of granting exemption to the land holders by allowing them to enter into agreement with the Co-operative Housing Societies. Accordingly revised guidelines were issued in G.O.Ms. No. 964 Revenue, dated 27-6-1983. Against these guidelines some of the Co-operative Societies and land owners filed Writ Petitions in the High Court which were disposed of by the High Court in its Judgement dated 18-9-1984. The High Court held the G.O.Ms. No. 964 as void and directed the Government to consider all the exemption applications under Section 20(1)(a) of the Act, and also with reference to Government of India guidelines without reference to G.O.Ms. No. 964. Against the said judgement of the High Court, Government filed Special Leave Petitions and they are still pending in the Supreme Court.

In G.O.Ms. No. 128, Revenue dated 14-2-1977 and G.O.Ms. No. 965 Revenue dated 27-6-1983 Government also issued guidelines for grant of exemption the cases of individual hardship U/s. 2(1)(b) of the Act.

Government also issued guidelines in G.O.Ms. No. 4271 Revenue dated 10-9-1980 and G.O.Ms. No. 966 Revenue dated 27-6-1983 for grant of exemption for undertaking group Housing Schemes.

On the advice of the Government of India, the Government constituted a State Level Allotment Committee with (6) members in G.O.Ms. No. 839 Revenue dated 16-6-1982 for recommending to the Government for allotment of surplus lands acquired by the Government to various bodies. The Government have indicated the priorities and revised pricing pattern for the excess land to be allotted to various organisations in G.O.Ms. No. 840 Revenue, dated 16-6-1982.

The details of excess vacant lands acquired and allotted to various Departments and Organisations are as follows :

	Sq. Mtrs.
i) Extent covered by notification published under section 10(1) .	3,05,61,175.00
ii) The extent of land covered by the notification's published U/s 10(3) of the Act.	1,94,26,556.00
iii) The extent of land in respect of which physical possession has been taken over	56,19,567.00
iv) The extent of land already allotted by the Government on the recommendations of State Level Allotment Committee	48,76,160.09
Details of the Allotment made :	
1. For Weaker Section Housing	2,08,626.95
2. For the Urban Development Programmes	21,01,314.56
3. For public amenities and Weaker Section Housing (Municipalities)	2,29,788.11
4. For Social Welfare (Social Welfare Department)	5,78,149.56
5. To Government Department	11,34,489.95
6. To Education Department	62,586.10
7. To Co-operative Housing Societies	4,86,898.60
8. Others	74,306.26
Total in Sq. Mts.,	48,76,160.09

MAINTENANCE OF LAND RECORDS (ANDHRA REGION)

The system of Revenue records and registration comprises the maintenance of (a) survey mark on ground (b) F.M.Bs for each survey number and part therein (c) A consolidated map for the village (d) Registers giving particulars such as classification, tenure and other description for a survey number or a part therein. The village officer at the Village level, the M.R.O. at the Mandal level the Assistant Director at the District level the Deputy Director, C.S.O. and State Archives at State level maintains the above said records and registers (Deputy Director, C.S.O. shall maintain traverse records only and the Assistant Director at District level shall maintain village map only).

The survey marks on ground are refixed by the Surveyor and Deputy Inspector of Survey, if the land holder fail to renew, inspite of notices served on them under section 15 of S & B Act within 15 days of notice. The costs therefor incurred and will be recovered from the parties responsible for maintenance of such survey stones. Over draft amount will be sanctioned to the Collectors of each District for distribution among the M.R.Os for incurring expenditure for purchase of survey marks and hired labour.

The Deputy Surveyor, Mandal Surveyor, Surveyor of Town Surveyor will attend to preparation of such records involving sub-division work due to assignment under darkhast rules, alienation of land etc. The records are validated by publication of notification under Section 5 & 17, 6, 9, 10, 11 and 13 of S. B. Act VIII of 1923 wherever necessary changes were incorporated in the Revenue records after sanction by the competent authority and thereafter brought into Revenue accounts to bring the records upto date.

Necessary changes in the map such as village maps, block, ward, town, Taluk, District and State maps are also carried out in the relevant maps as per S&B Act. Alteration involving village boundary and upwards shall be reported to the Director for confirmation. The Director shall coordinate the maintenance work in the Districts, make arrangements for training of Assistant Collectors, Deputy Collectors, Tahsildars and Revenue Inspectors while acting as a member of the establishment of the Commissioner of Land Revenue and Settlements and technical adviser to the Collectors and Government.

Land Classification

Settlement processes covers the classification of land into dry, wet, garden lands with components of sort of soil, taram and assess the rate per acre and land revenue to be fixed and the assessment to be fixed and the assessment to be levied for such land having the contents of clay, such as clay, alluvial, Red soil etc. The Government shall approve the classification proposed by the Settlement machinery of Settlement Officer, Director and Commissioner of Settlements, and the rates confirmed by the Government for different classification of lands are introduced in the revenue accounts by notification.

Telengana Region

Similar set up, except few changes are adopted in this area. The land holders were to supply the survey marks and the labour for conducting survey operations; on extension of S&B Act to Telengana Region from 1-8-59, necessary arrangements are being made to bring the maintenance upto date by renewing the missing survey marks and effecting sub-division relating to land acquisition, assignment, land ceiling etc., by issuing necessary supplemental sethwars by the Assistant Director, Survey & Land Records basing on the communication by the revenue officers and thus the records brought upto date to agree to the State of things on ground and maintained.

OPEN AREA : The above rules apply to open areas and cultivable lands outside the municipal and panchayat limits administered by the respective municipalities and panchayats, but lie in Municipal limits.

URBAN AREAS : Detailed survey and maintenance in respect of ownership, in the Panchayats, municipalities, municipal corporations are also maintained by deputing the survey personnel on the basis of sharing the cost of maintenance in the proportion of 2 : 1 by the municipalities and the Government respectively.

It is however pertinent to state that while in Andhra Region original survey and settlements operation were

held during the years of last quarter of 19th and 1st quarter of 20th century and in Telengana, the survey was conducted from 1347 F to 1378 Fasli. Subsequent surveys were however confined to the (Abolished) estates, muttas and mahals in Andhra Region and Jagir in Telengana.

NOTE

Land Titles and Registrations and Transfers

All non-testamentary instruments purporting to create, declare, assign, limit or extinguish any right, title of interest of the value of one hundred rupees and upwards, to or in immovable property are compulsorily registerable as per Section 17 of the Registration Act, 1908. All non-testamentary instruments affecting immovable property of a value less than one hundred rupees, instruments affecting movable properties and wills are optionally registerable under section 18 of the Registration Act. As per Section 49 of the Registration Act, no document required by Section 17 to be registered shall affect any immovable property comprised therein or be received as evidence of any transaction affecting such property or conferring such power unless it has been registered. No penal action was, however, contemplated in the Act against non-registration of a compulsorily registerable instrument.

2. Rule 58 of the Registration Rules framed under the Indian Registration Act, 1908 clearly says that it forms no part of a Registering Officer's duty to enquire into the validity of a document brought to him for registration or to attend to any written or verbal protest against the registration of a document based on the ground that the executing party had no right to execute the document. Therefore, it is not within the purview of the Registration Department to verify the title before registration of the document. Hence no such procedure.

Registration of documents is, however, subject to fulfilment/compliance of the requirements under certain enactments viz., the A.P. Assigned Lands (Prohibition on Transfer) Act, 1977, the A.P. Land Reforms (Ceiling on Agricultural Holdings) Act, 1973 and the Urban Land (Ceiling and Regulation) Act, 1976. If the land sought to be alienated is an assigned land, the transaction is illegal and its registration is prohibited under the A.P. Assigned Lands (P.O.T.) Act, 1977. If the land in question is an agricultural land, the document will be registered only after obtaining a declaration under section 19 of the A.P. Land Reforms (CO.A.H.) Act, 1973, from the executant. A copy of the declaration will be transmitted to the Revenue Divisional Officer concerned for an enquiry about the correctness of the information furnished in the declaration and further action if the declaration is found incorrect. The documents affecting vacant land or urban land as defined under the Urban Land (Ceiling and Regulation) Act, 1976 will be registered only after the requirements under the Sections 26 and 27 thereof are complied with.

Thus, there are no hurdles for registration of documents if the above requirements are duly complied with and proper stamp duty and fee are paid. If the provision of the Registration Act, read with Indian

Stamp Act are complied with, a document is registered and it can be discredited by the court of law, if it is found it contravenes the provisions of other enactments.

(1) State Ownership of Urban Land

(a) *Municipal* : According to Section 37 of the A.P. Municipalities Act 1965 all vacant lands belonging to or under the control of the Government situated within the local limits of Municipalities Vest in the Municipalities. The council shall not (1) construct or permit the construction of any building or other structure on any such vacant land (2) use or permit the use of such vacant land for any permanent purpose or (3) alienate such vacant land to any third party unless prior permission of the Government is obtained by the Council.

Hence, the in respect of the Government lands situated within Municipal limits, the control has gone to Municipal Councils and the ownership always vests with the Government i.e. Revenue Department.

The particulars of Government lands which have gone to the control of the Municipalities are not available in this office and they have to be obtained from the Collectors.

(b) *State (Nuzul, Non-Nuzul)* : There are certain lands leased out to non-agricultural purposes including salt pans etc.

(c) *Area of lands under illegal occupation* : Out of a total area of 3,70,444 acres available for assignment in the entire state an extent of Ac. 58027-00 is under the encroachment of in-illigible Sivajiamadaras and action is being taken to free the land from their occupation. A statement showing the district-wise area available under illegal occupation is shown below.

LAND UNDER ILLEGAL OCCUPATION

1. Srikakulam	Ac. 934
2. Vizianagaram	Ac. 388
3. Visakhapatnam	Ac. 353
4. East Godavari	Ac. 12
5. West Godavari	Ac. 57
6. Krishna	Ac. 578
7. Guntur	Ac. 17
8. Prakasam	Ac. 5910
9. Nellore	Ac. 540
10. Kurnool	Ac. 1576
11. Cuddapah	Ac. 2558
12. Anantapur	Ac. 3479
13. Chittoor	Ac. 1307
14. Mahaboobnagar	Ac. Nil.
15. Nizamabad	Ac. 658
16. Karimnagar	Ac. 13
17. Adilabad	Ac. 28655
18. Medak	Ac. Nil.
19. Warangal	Ac. 7034
20. Khammam	Ac. 3277
21. Nalgonda	Ac. 51
22. Rangareddy	Ac. 630
23. Hyderabad	Not Available

BRIEF NOTE ON THE NATURE & MAGNITUDE OF THE POLLUTION AND THE STEPS TAKEN BY THE POLLUTION CONTROL BOARD FOR CONTROLLING POLLUTION

Introduction

Andhra Pradesh Pollution Control Board has been established in 1976 to implement the provisions of Water (Prevention & Control of Pollution) Act, 1974. In the year 1981, the Board has been entrusted with the additional responsibility of implementing Air (Prevention & Control of Pollution) Act, 1981.

Until February, 1984 authority vested with the Board the Water (Prevention & Control of Pollution) Act, 1974 has been utilised to make the industries control pollution. Desired progress could not be made because the industries made use of the lacuna in the Act. In view of this, at the instance of Chief Minister. The Government has initiated coordinated action by the different State Government Departments to see that the industries control pollution in a reasonable time. Simultaneously the Chief Minister of Andhra Pradesh wrote a letter in April 1984 to the late Prime Minister requesting her to get the amendments to the Water Act proposed by the State Boards passed early. In addition he suggested that suitable amendments may be made in other Central Acts like the Factories Act, Electricity (Supply) Act, providing for the withholding/cancellation of licence, supply of power etc., for the units which defy the lawful directives of Andhra Pradesh Pollution Control Board. List of highly polluting industries has been prepared and efforts were made to see that these implement pollution control measures without any delay by coordinated action with the various Government Departments.

Nature & Magnitude of the Pollution

Industrial wastes of varying pollution potential*

*WATER

- Priority I : Proven health hazard, (pesticides Industries connected with nuclear power).
- Priority II : Potential health hazard, (Chemicals and Pharmaceuticals).
- Priority III : High Environmental hazard, (Distilleries and Pulp & Paper Industries).
- Priority IV : Moderate environmental hazard, (Bewerages, Drinks Instance Foods, Tanneries, Sugar, Textiles).
- Priority V : Minimal Environmental Impact. (Electronics, Engineering).

AIR

- Priority I : High Polluting Cement, Thermal Power Stations.
- Priority II : Moderately polluting (boilers, stacks of oil, Rice Mills etc.

are discharged by over 368 major and medium industries. In the small scale sector, Chemical and Pharmaceuticals industries discharge wastes with high pollution potential. Domestic wastes are discharged by 93 Municipalities and three Corporations.

Automobile exhaust is a problem in Hyderabad, Vizag and Vijayawada.

During the last three years Andhra Pradesh is giving a big push to industrialisation. Also the cities and towns are growing at a fast rate.

Method of tackling pollution in Andhra Pradesh

For tackling pollution, the Pollution Control Board has divided the problems into the following four categories.

1. Problem caused by existing industries.
2. Problem that is likely to be caused by new industries.
3. Problem caused by automobiles.
4. Problem caused by Municipalities Corporations.

Problem caused by the existing industries

The pollution caused by the industries is mostly confined to cities likely Hyderabad and Visakhapatnam and also Ramagundam and Kothagudem which are being industrialised in a very big way. In addition to this, the effect of pollution is felt, where polluting industries such as paper, Distilleries, Cement Factories are located. These are spread through the State.

Tackling Problems in Hyderabad

Water Pollution

According to studies get done through NEERI, the total pollution load due to the existing industries in Hyderabad is 53226 Kg/day. Of these 9 industries account for more than 51097 Kgs of B.O.D. i.e., 96% of total pollution by the industries.

During the last three years the attention has been diverted to control pollution from these industries. The progress achieved is shown in Table-I.

Though the remaining industrial pollution is less than 4% its effect is felt in some areas like Jeedimetla, Bollaram, Sanathnagar etc., as a number of small scale chemicals and pharmaceutical industries (which come under priority No. II) are located in these areas. Incidentally, it may be pointed out that Hyderabad ranks 2nd in India with reference to these industries. An indepth study of the problem of these industries has been made by the pollution control board. This revealed that the only way to solve the pollution problem in these areas is to provide common effluent treatment for the group of industries in each area. The transportation of the effluent to the treatment plant can be done by either sewer lines or tankers depending upon the quantity of effluent. As a first step, in sorting out the pollution problem in Jeedimetla, all these industries were directed to segregate the coloured and toxic effluents, collect them in a separate sump and transport them by a tanker to Municipal sewerage system, where a receiving station has been set up.

Incidentally, it may be pointed out that this transportation of the effluents has been organised just on a commercial basis.

Where transportation by tankers is not economically feasible, due to large quantities of effluents, sewerage scheme has to be invariably provided. One such area in Hyderabad is Nacharam. A sewerage scheme and common effluent treatment plant has been designed and has been handed over to A.P. Industrial Infrastructure Corporation for implementation. Necessary instructions have issued by Government to take up this scheme in 1985-86.

In Balanagar area, the sewer line already provided has not been able to carry all the effluents generated in this area. As a result, most of the industries in the residential colonies discharge their effluent into the nallah known as Kukatpally nallah. This is not only creating water pollution but also air pollution when they flow through the nallah. In order to sort out this problem, a duplicate sewer has been proposed.

As a temporary measure, Pollution Control Board directed the major industry in that area i.e. I.D.P.L. to discharge their effluents only during night time and utilise the capacity in day by the industries discharging effluents which are not easily biodegradable and which emit bad smell. The Municipal Corporation of Hyderabad has been advised to construct Oxidation ponds in the nallah to treat the sullage and sewage flowing in it.

Air Pollution

For Air quality management, the ambient air quality in and around Hyderabad is being determined through NEERI by establishing over 15 air quality monitoring stations. It is proposed to establish permanent air quality monitoring studies in the sensitive areas identified.

Studies carried out so far indicate that though most of the pollutants are within permissible limits, the trend is towards increase and this needs to be corrected.

The smell emanating from some industries is a problem in Hyderabad. The Air Technical Committee has requested its Chairman Prof. J. M. Dave to study one case and to suggest the methodology.

Another air pollution problem is caused by priority No. II (Air) industries in Hyderabad because number of them are situated in a concentrated way. The job of developing suitable cost effective technology has been taken up by M/s. Thermax Limited.

Tackling pollution Problems in Vizag

Though there are 12 major industries, problems due to air pollution is being felt in certain localities. In order to plan air pollution control programme in these areas and also to see that the steel plant under construction will not add to the pollution problems in Vizag, air quality survey has been carried out through NEERI for a period of one year. Based on this, sensitive areas have been identified where location of industries with air pollution potential has been prohibited. The Visakhapatnam Urban Development Authority has been advised to modify the Master Plan based on these studies. The status of pollution control in Visakhapatnam town is shown in table-2.

Individual industries have been persuaded to improve the performance of the existing pollution control equipment or install new equipment where needed.

At the instance of Government of Andhra Pradesh, the A.P. Pollution Control Board appointed a high power committee to review the safety aspects of the potentially hazardous industries and suggest to prevent shopal type disasters. The Committee has already visited industries in Hyderabad and Kovvur. It will complete its visit of the industries in the rest of the State and submit a report by end of July, 1985.

Tackling Pollution problems in Ramagundam

There are four major organisations viz., M/s. National Thermal Power Corporation, M/s. Fertilizer Corporation of India, M/s. Singareni Collieries, M/s. Thermal Power Station of Singareni Collieries and A.P. State Electricity Board Thermal Power Stations, which discharge their effluents in the River Godavari. During the summer season, practically there will not be any flow in the River as there is a dam upstream of the area and the tributaries join the river downstream of the area. Due this, problem of pollution of river is felt. Since the intake works of Singareni Collieries is downstream of the point of discharge of effluent of M/s. National Thermal Power Corporation, M/s. Fertilizer Corporation of India and A.P. State Electricity Board, it is worst effected.

In order to tackle the problem, the Pollution Control Board convinced all the major organisations that they should have a common conveyance system which transport the treated effluent to a suitable place preferably on land. The Pollution Control Board has taken up the responsibility of getting the feasibility report prepared by a competent consultant. Accordingly Pollution Control Board invited tenders and appointed a consultant for the work. While the cost of consultation is shared equally by all the participants, the cost of execution will be share based on the flow.

Tackling Pollution Problems in Kothagudem

Air Pollution in Kothagudem area is caused by Kothagudem Thermal Power, which comes under priority No. I (Air). In addition to this, there are air pollution industries such as M/s. Nava Bharat Ferro Alloys Limited, M/s. Sponge Iron (India) Limited, and M/s. A. P. Steels Limited, which come under priority No. II (Air)—Out of these, the Sponge Iron (India) Limited has already installed air pollution control equipment and the Kothagudem Thermal Power Station has taken up the installation of Electro Static Precipitators for controlling air pollution. Other industries are being persuaded to install the air pollution control equipment.

Tackling Pollution Problems in other Parts of the State

Sago Industries pose a severe problem in East Godavari district. In order to solve this problem, a consultant has been appointed to prepare a sewerage and common effluent treatment scheme.

In addition to the Oxygen depleting pollution, colour is a major problem in Paper Mills which come under priority No. III (Water). The Pollution Control

Board has stipulated that colour should be removed before discharging into any stream. The progress made by Paper Mills to control pollution is shown in Table-3.

Another major group of industries which come under priority No. III (Water) is distilleries. The progress achieved by them in controlling pollution is shown in Table 4. In this group, smell from anaerobic lagoon is a big problem. In view of this, the Pollution Control Board has directed that they should go in for closed digestors and the existing lagoons should be covered. Cement which comes under priority No. I (Air) has become an important industry in Andhra Pradesh.

Problem that is likely to be caused by new industries

Whenever an industrialist applies for No Objection Certificate, the suitability or otherwise of the site is examined. If it is suitable, No Objection Certificate is issued stipulating the required conditions. The progress made by the industry in implementing the conditions stipulated in No Objection Certificate are care-

fully monitored. The 2nd No Objection Certificate at the commissioning will be issued only if they implement all the conditions stipulated in first No Objection Certificate.

Problem caused by Automobiles

As per the provisions under section 19(g) and 20 of Air (Prevention & Control of Pollution) Act, 1981, A.P. Pollution Control Board has advised the State Government to issue the rules for control of pollution due to automobile exhaust. To start, with, it will implement the provisions of the Act in Hyderabad, Vizag and Vijayawada.

Problems caused by Municipalities and Corporations

Due to lack of sufficient funds it has not been possible to make any headway in tackling the problem. The central Pollution Control Board has already approached Government of India for allotment of funds for the purpose. In the meanwhile, the Pollution Control Board has prepared a plan to see that Municipalities do not pollute their raw water with their own sewage and sullage.

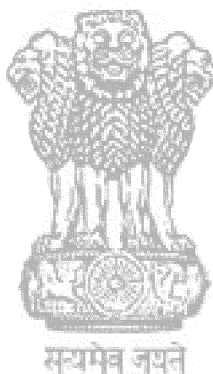
TABLE I
POLLUTION (BOD) LOAD FROM MAJOR INDUSTRIES IN HYDERABAD

Sl. No.	Name of the Industry	Location	BOD Kg/day	Population equivalent	ETP Constructed/Under Construction	Remarks
1.	M/s. I.D.P.L.	Kukatpally	18,575	412,800	ETP Constructed and in operation	
2.	M/s. Laxmi Starch Ltd.	Nacharam.	15,360	3,41,350	Construction of Primary Treatment Plant completed.	
3.	M/s. Warner Hindustan Ltd.	Uppal	5,785	128,550	Renewal of Consent refused. Finalised ETP Designs.	
4.	M/s. Liquors Indja Ltd.	Nacharam	5,600	1,24,450	ETP under construction	
5.	A.P.D.D.C.	Lalapet.	1,699	37,750	ETP completed	
6.	M/s. Tungabhadra Industries Ltd.	Walker Town Secunderabad.	1,224	27,200		
7.	M/s. Bakelite Hylem Ltd.	Sanaithnagar.	1,115	24,800	ETP constructed and in operation.	
8.	M/s. Uniloids	Nacharam.	936	20,800	Transporting Effluents to sewers.	
9.	M/s. I.D.L. Chemicals Ltd.	Kukatpally	803	17,845	ETP constructed and in operation.	
			51,097	11,39,595		

TABLE II

MAJOR POLLUTING INDUSTRIES, VISAKHAPATNAM

Sl. No.	Name of the Industry	Water Pollution Effluent Treatment Plant	Air Pollution control equipment	
(1)	(2)	(3)	(4)	
1.	M/s. The Thandava Co. op Sugar Ltd. Rayakaraopeta.	Anaerobic lagoons followed by aerobic ponds.	---	
2.	M/s. Hindustan Polymers (P) Ltd Vizag.	Anaerobic lagoons followed by dilution.	4 heaters and 4 boilers (Oil fired)	Mechanical Dust Collectors.
3	M/s. Coromandel Fertilizers Ltd. Vizag.	Gypsum Pond for settling gypsum Neutralisation of inflow for Gypsum pond. Dilution with sea water.	1. H ₂ SO ₄ Plant	(a) Brick mist eliminator candles made of Special Glass fibres (20 Nos.) in I.A.T. (b) Honey combridst eliminator in absorption tower. (c) Acid Demister in F.A.T
			2. Phosphoric acid plant.	(a) High efficiency cyclones (6 Nos.) dust collectors in rock grinding unit. (b) Bag filters (2 Nos) in rock, grinding unit. (c) Scrubber (No.) with multispray nozzles.
			3. Complex Fertilizers Plant.	(a) High efficiency Cyclones dust Collectors (4 Nos.). (b) High Energy venturi scrubbers (6 Nos.)
4.	M/s. Hindustan Petroleum Refinery Corporation Visakhapatnam.	A.P.I. Oil Separator.	6 boilers No control (oil fired) equipment five acquired furnaces 3 smoke meters attached to control devices.	
5.	M/s. Hindustan Shipyard Ltd., Gandhigram.	No trade waste are being discharged by this industry as the manufacturing process includes mechanical operation. Domestic wastes after treatment in septic tanks, discharged into drains and which joins sea.	---	
6.	M/s Bharat Heavy Plates & Vessels Ltd. Vizag.	Combined effluents i.e. dilution sewage and trade wastes is being treated in two oxidation ponds	---	



(1)	(2)	(3)	(4)
7. M/s. Hindustan Zinc Ltd., Vizag.	Zinc circuit (1) Line slurry addition (2) Reaction tanks (3) Settling tanks (4) Sludge lagoons (5) Balancing lagoons	Sinter Plant ESP's (2 Nos.) & Scrubbers Blast furnace Scrubbers & (acid Plant) Cyclones. Roaster Plant E.E.S.P.'s (2 Nos.) & Cyclones. Zinc Oxid Bag filter, Plant	
8. M/s. Andhra Cement Company.	No trade wastes from this industry. The domestic wastes are treated in Septic tank followed by each pit.		—
9. M/s. Union Carbide India Ltd. Visakhapatnam	The industry is using the effluents for gardening purpose within their premises after settling.		—
10. M/s. Coastal Chemicals Ltd.	1. Neutralisation facility with lime slurry. 2. Sedimentation ponds. 3. Recirculation of settled effluent part of the effluent-discharged into mindi drain. Manufacturing process does not involve much water pollution problem.	Two coal fired boilers.	No. Control equipment provided.
11. M/s. Andhra Steel Corporation Ltd., Visakhapatnam.		3. Oil fired furnaces.	No control equipment provided
12. M/s. A. K. Corporation Ltd.	The process does not involve much water pollution problems.	One electrical arc furnaces Oil furnace.	No control equipment provided.

TABLE III

STATUS OF POLLUTION CONTROL BY PAPER MILLS

1. Total number of paper Mills.	22
2. Number of industries who have got full Effluent Treatment Plant	5
3. Number of industries who have got partial Effluent Treatment Plant	15
4. Number of industries who have taken up construction of Effluent Treatment Plant works	2
5. Number of industries who have not taken any action in providing Effluent Treatment Plant	—

Out of four Major Mills, two have already solved the problem of colour removal of the remaining two, one is exploring the possibility of removal of colour

by activated carbon and the other by segregating the effluent and applying on land.

TABLE IV

STATUS OF POLLUTION CONTROL BY DISTILLERIES

1. Total number of Distilleries	16
2. Number of Industries who have got full Effluent Treatment Plant	1
3. Number of industries who have got partial Effluent Treatment Plant	13
4. Number of industries who have taken up construction of Effluent Treatment Plant	1
5. Number of industries who have not taken any action in providing Effluent Treatment Plant	1

At present all the units who have got partial Effluent Treatment Plant are disposing their effluent by dilu-

tion. They have been directed to go in for secondary treatment.

NOTE ON URBAN CONSERVATION STUDY FOR HYDERABAD CITY

(a) *Huda as the Pioneers*

Under the Andhra Pradesh Urban Areas (Development) Act, 1975, Hyderabad Urban Development Authority is the Planning, Development Control and Co-ordinating agency for the metropolitan area of Hyderabad. The authority appreciated the historical, architectural and cultural value of the old areas and buildings which should be conserved for an extended use. An effort was therefore made to formulate a study proposal to identify areas and buildings of historical and architectural interest and to work out administrative, legal and financial strategies for their protection. Lessons were drawn from conservation policies and projects carried out in developed countries, since at metropolitan level so far no Indian city had undertaken a conservation study.

(b) *The Grant from the Ford Foundation*

The Ford Foundation, on a formal request made to them by Hyderabad Urban Development Authority through the State and Central Governments sanctioned a study grant to bear the major share of the finances (US \$ 35000). The Foundation considered this study as a pilot project for South East Asia. While the grant was modest it had a very high catalytic effect.

(c) *The study Team and its Advisers*

A small cell was created in HUDA to do the work. It was headed by an architect—town planner specialised in urban conservation, besides two graduate architects and two surveyors with a background of civil engineering.

To guide this cell from time to time, a technical advisory committee was constituted by HUDA with architects, historians, archaeologists, administrators, and town planners of eminence both from Hyderabad and other cities.

The Ford Foundation also invited Mr. Roy Worskett, Town Planner and expert in Urban Conservation from United Kingdom in January, 1982 as a consultant to advise the study team. He made specific recommendations in respect of the proposed conservation legislation, conservation areas, listed buildings and the administrative and financial aspects.

The team in HUDA was assisted by other short-term consultants at different stages of the study. A National Workshop on Urban Conservation was held to mark the completion of the study in March, 1985.

(d) *The contents of the study*

The final report in two volumes covered the following aspects of Urban Conservation.

1. Identification of Buildings and areas and documentation—criteria and methodology.
2. Architectural of the City's urban growth.
—basic research on one of the criterion,
3. History of the City's urban growth.
—a chronology was compiled beside collecting period maps.
4. Legislation for conservation.
—After a long discussion of the existing legal provisions in India and conservation legislation in developed countries a draft was recommended for Andhra Pradesh.
5. Financial inducements to owners.
—Tax concessions and other incentives.
6. Cost benefit analysis of conservation.
—recycling through actual case-studies.
7. Planning policy and conservation.
—land use and other controls.
8. Conservation and environment
—traffic and aesthetic control.
9. Public participation.
—peoples involvement.

(e) *The criteria for selecting Buildings*

The first task for the study team was to go into the history of the city's growth and development. Old maps and documents were collected to trace the origin and importance of different areas. Old areas in general and historical buildings in particular were visited by the team for a preliminary survey. The guidelines adopted for the selection of buildings were generally as follows :

- (a) the age of the building (even 50 years old buildings were included).
- (b) architectural excellence or style of any particular period.
- (c) relevance to the social and economic history of the city.
- (d) association with well known persons or events.
- (e) its value as a part of a group of buildings.
- (f) its reuse potential and suitability for conservation through recycling.

(f) *The architectural styles of Hyderabad*

For the first time a detailed study was carried out to trace the architectural styles of Hyderabad City. Ten distinguishable architectural styles could be identified

during the survey and they were classified and named as follows :—

Styles	Examples
(a) Qutub Shahi Style	The Charminar
(b) European Style	The British Residency
(c) Temples	
(d) Qutab Shahi Revival	Abdul Haque Diler Jung's Tomb at Boats Club, Secunderabad.
(e) Regional Mughal Variation (General)	Paigah Tombs
(f) Regional Mughal Variation (Wooden Devdis)	Malwala Palace.
(g) City Improvement Board or Osmania Style	The High Court.
(h) Indo-European Style	The Mahboob Mansion
(i) Vernacular Style	1. Prakash Residence, Secunderabad.
(j) Other Styles	Spanish Mosque, Begumpet.

The Qutub Shahi style represented by the Charminar, the great mosques and the royal tombs is in fact one of the provincial Indo-Islamic styles, characterised by neat spherical domes placed on octagonal drums, pointed ogee arches and intricate stucco decorations.

The buildings of European style generally resemble Palladian Villas, Medieval Manor Houses or Romanesque Churches.

Temples of Hyderabad are not of much architectural merit.

The remaining seven styles are city-level or local styles manifesting composite architectural expressions. The Mughal cusped arches and ornamental columns, kiosks and marble screens were reproduced here in lime or wood, yet exuding originality rather than imitation by virtue of sheer excellence and sincerity of craftsmanship.

British architect of the "City Improvement Board Period" such as Vivian J Esch (1876-1950) tried an "Orientalising approach" by using both Islamic and Hindu architectural features.

(g) Analysis of the survey findings

It was possible to identify 165 buildings (consisting of 174 structures) in the first instance representing all the styles and periods. The history of the buildings was gathered and they were documented through photographs and maps. Measured drawings were prepared for some of the representative buildings.

Some buildings selected for detailed study were structurally surveyed to determine the general nature and extent of repairs required and cost estimates were prepared. For these buildings alternative reuse analysis was carried out to provide a basis for pilot projects to be undertaken in future.

(h) Re-use study

An attempt was made to compare the financial viability of refurbishment of old buildings as against demolition and redevelopment. In most cases it was seen through rough estimates that conservation and reuse of old buildings in the context of Hyderabad requires less initial capital and produces better returns compared to redevelopment. The conservation schemes must however be supported by a sympathetic urban policy, in which the land use plan and the distribution of Floor Area Ratio (F.A.R.) favour recycling rather than rebuilding in the case of listed buildings.

(i) Typological Classification of Buildings

The buildings identified were classified according to their 'typology'. The following typologies are present in the city (among listed buildings) :

- religious (mosques, temples, churches and tombs etc.)
- monumental structures (gateways, towers etc.)
- palaces and complexes.
- buildings with internal courtyard (devidis and havelies).
- Pavilions, (in gardens).
- small buildings in row (roadside groups), and
- individual buildings (relatively small buildings, detached structures).

Typological analysis is an essential pre-requisite for recommending adaptive reuse of buildings. For example, palace complexes having large rooms and corridors can be best used as public buildings such as hospitals, colleges, hotels, law courts, libraries etc. Buildings with internal courtyards must be put to such use that the open courtyards are effectively used as places of gathering and public activity like dance schools, museums, exhibition venues etc. Small buildings in row are useful as residences due to the small size of rooms and the location of stair-cases and toilets etc.

(j) Conservation of Areas

Besides individual buildings, special areas were identified in three categories :—conservation areas (immediate surroundings of protected monuments and important listed buildings), design zones—(newer areas requiring design control over new buildings), and neighbourhood improvement areas (areas requiring specific improvement of building structures, street facades and basic urban services).

The concept of 'conservation areas' as they are understood in European Countries was not applicable in Hyderabad, since there is hardly any area left in the old city which can be identified as an ensemble or a street or quarter of coherent architectural quality. New developments have ruthlessly disrupted the visual continuity and architectural integrity of most traditional neighbourhoods.

The nomenclature term 'conservation area' used in the study for the first category, is therefore meant to be taken in a very limited sense with the main intention of preventing further damage to the setting of monuments and listed buildings.

(k) *Positive incentives to private owners*

Because of their private ownership, conservation of buildings will require public support and active help of the owners. It will not be practicable to acquire and protect all these buildings :—not only because the resources are limited, but also because this may not be the best solution. In most cases, the desirable situation could be to encourage the owners themselves to conserve and reuse their own buildings. A study was conducted on the possible financial incentives that could be made available to the owners. However, the study brought out that mere tax incentives would not make much difference in the individual attitudes or propensity to preserve the listed properties, with low incidence of taxes and with the decreasing value of listed properties. An imaginative grants or loans scheme may get certain private individuals, religious public and government institutions interested in preserving their buildings. It has been suggested that the Urban Development Authority in such cases, should provide professional and constructional services.

In the case of private owners exemption from property tax may not be an attractive proposition. The study has suggested Income Tax exemption for them. Exemption can also be given under Gift Tax, and Wealth Tax. In the case of listed properties the State Government should exempt the transfer fee.

It is also suggested to notify the listed buildings and areas in the historic centre as 'Free Trade Zones' by extending total or partial exemption from sales tax and entertainment tax. Constitution of a high level "Land-marks Commission" with expertise in urban conservation has been proposed. It has also been suggested to create a revolving fund both at the Central and State Government levels where donations could be received for urban conservation.

(l) *Legal Measures*

While the thrust should be on promotional and positive measures like creating public awareness and providing tax concessions, grants and loans :—the task of urban conservation in a rapidly developing city has to be simultaneously accompanied by certain restrictive legal provisions. Further the law must be part and parcel of the urban administration and enforced by the civic bodies of authority who control land use and intensity of development.

It has been thus proposed to strengthen the present urban development law in the state, the Andhra Pradesh Urban Areas (Development) Act, 1975 with provisions to declare 'listed buildings' and 'conservation areas' and making it compulsory for the owners of such buildings to take permission before demolition, addition or alteration. The draft law has been formulated so as to fit into other central and state laws on land acquisition, property and town planning. Lessons were drawn from European town planning laws, especially the British legislation.

The law will empower the Urban Development Authority to relax land use regulations when there is a need to allow a more remunerative use to a listed building for recycling. The law will enable undertaking conservation and rehabilitation projects by utilising housing development funds such as HUDCO loans.

(m) *The draft bill on urban conservation*

The salient features of the draft bill are stated below :

Listed Buildings

1. The Urban Development Authority, after conducting a survey and after consulting an expert committee shall prepare a list of buildings of historical, architectural or social importance which need protection. The draft lays down certain criteria for selecting the buildings. The buildings are to be listed in two categories depending on their relative importance viz., 'listed local monuments' and 'listed historical buildings'.

2. The Authority shall give public notice of the intention to notify the buildings and the objections and suggestions received shall be examined by an expert committee. The list alongwith the Committee's recommendations shall be sent to the Government for their approval.

3. After approval of the Government the list will again be published in local newspapers for public information. At this stage the owners of the buildings will be individually informed. Deletion from the list will require going through the entire exercise all over again. This is to avoid any arbitrariness in the process.

4. If any archaeologically protected monuments are deprotected by the concerned departments such monuments shall automatically get the status of 'listed buildings'.

5. The owners of the listed buildings cannot demolish the buildings or make alterations in the building without prior permission of the Authority. They must apply for 'listed building consent' to the Authority which the Authority may either grant or refuse. In the case of demolition and major new additions or alterations the applicant must give one month's notice to the A.P. Urban Art Commission (this does not exist any more) and the Department of Archaeology who may express their views if any within that period. The application to the Authority for such a case shall be accompanied with the views if any of these two departments. After that the Authority must issue one month's notice in the newspapers for public information calling for objections and suggestions. Any applicant not complying with these provisions commits an offence which is punishable by fine or imprisonment.

6. Causing damage to a listed building is punishable with fine or imprisonment.

7. In case there is a building of importance which is not listed and is likely to be pulled down or damaged, the Authority may issue a "building preservation notice" which gives the building the status of a 'listed building' for a period of six months. This is something

like an ordinance. In the case of urgency such a notice can be fixed at a conspicuous place or some object on the building.

8. If the authority feels that a listed building is not being maintained properly and needs repair etc., the Authority can serve an 'enforcement or repair notice' to the owner and the occupier after giving him a show-cause notice. The owner and occupier can appeal to the Board of the Authority (other notices are issued by the Vice-Chairman). The Board's decision is final. Violation of 'enforcement or repair notice' is punishable and the Authority can themselves carry out the repairs and recover the expenses from the owner.

9. Listed Buildings can be compulsorily acquired under the Land Acquisition Act, 1894 by the Authority or by the Government. A difference is made here from the archaeological monuments Act. Archaeological monuments can be acquired compulsorily only if they are in danger. In the case of listed buildings such a requirement is done away with. The notification of the list for public objections and suggestions and the official notice in the Gazette that it has been listed are respectively given the status of Section-4 and section-6 notification under the Land Acquisition Act.

10. In case of a proven deliberate neglect of the building by the owner, acquisition can be made with minimum compensation.

11. The Act also provides for a differential compensation to the owner if a conditional listed building consent or a refusal of such consent affects the owner's rights of property partly.

12. If the listed building consent is not granted the owner can also serve a 'purchase notice' on the Authority requiring the authority to acquire the building or issue necessary clearance.

13. Conservation Areas

The following are the provisions for the protection of areas of historical or architectural importance :

Areas of archaeological, historical or scenic importance can be declared under three categories as follows :— (collectively called "controlled areas") :—

- (1) Conservation areas;
- (2) Neighbourhood improvement areas; and
- (3) Design zones.

1. Areas within 100 mtrs. radius of protected archaeological monuments and listed local monuments (the first grade listed buildings) can be declared as Conservation Areas. They shall be enforced simultaneously with the notification of the buildings and monuments. In

conservation areas there will be control on demolition of buildings, cutting of trees, and advertisements. However, repairs, additions and alterations to buildings do not require permission. All new buildings within the zone will require clearance from the Andhra Pradesh Urban Art Commission.

2. areas which contain a number of listed buildings and townscape requiring general improvement schemes, shall be declared as 'Neighbourhood Improvement areas'. The authority shall take up improvement and conservation proposals for these areas. Specific projects will have to be taken up.

3. areas where the overall character should be maintained but where a larger degree of new development can take place may be notified as 'design zones'. All new buildings in these zones must be examined and approved by the A.P. Urban Art Commission.

In all the three areas, it is necessary to consult the Andhra Pradesh Urban Art Commission before delimitation. Further, it is necessary to make a newspaper notification for public objections and suggestions. In all the three areas advertisements are to be strictly controlled, cutting of trees is prohibited and the authority is empowered to prepare special zoning regulations for these areas.

14. Finances from local bodies

The local bodies functioning within the development area will be required to contribute half of the property taxes from listed buildings to the Authority. The Authority may also receive grants, contributions and loans and create an Urban Conservation fund which can be used for the improvement to listed buildings by the Authority.

15. Grants and Financial Incentives to owners

The authority in consultation with the Andhra Pradesh Urban Art Commission may sanction grants and loans to the owners for repairs of the listed buildings. The Government may exempt the owners of the listed buildings from payment of property tax.

16. Planning and regulation incentives

The authority will be competent to grant exemptions in land use, floor area ratio, and other regulations in order to facilitate conservation of the listed buildings.

17. Housing funds for conservation

It will be possible to use housing improvement funds such as HUDCO loans, for undertaking renovation and rehabilitation of listed buildings.

ARUNACHAL PRADESH

NOTE ON URBANISATION TRENDS AND PROBLEMS IN ARUNACHAL PRADESH

Urbanisation as a concept does not have much relevance for the present in the Union Territory of Arunachal Pradesh. The terrain is hilly, distances very large and the population largely tribal and backward. The territory is very sparsely populated with a total population of 6,31,839 spread over an area of 83,743 sq. Kilometres, as per the 1981 census. Given this small density of population (i.e. 8 per sq. Kilometre), it can be appreciated that the pressure of urbanisation is restricted to only 10 District Headquarters and some other towns. Since the forest cover in the territory is nearly 62%, there is an increasing tendency for the tribals to encroach upon forest land for building of homesteads and for cultivation purposes. The practice of Jhuming or rotational cultivation of the same land is still in vogue in many of the territory.

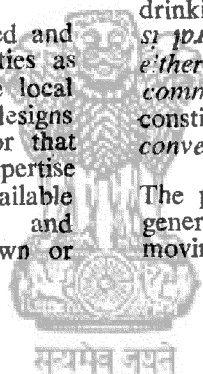
In our District Headquarters, flat land is limited and in the absence of proper infrastructural facilities as well as a fair system of communications, the local administration is left more or less to its own designs for planning the expansion of the town. For that task they have very little town planning expertise available, since the only technical persons available in the district are Executive Engineer (PWD) and Executive Engineer (PWD). There is no town or

country planning organisation in the territory. Local Bodies are restricted to the village Panchayats, Anchal Samities and Zilla Parishads, and Municipal Agencies are not in existence even in the Capital Complex, which is perhaps the largest urban centre. We still have to evolve a Municipal Act & bye-laws for our urban Complexes. Town Planning in the Capital Complex is being done by the Chief Project Officer and Senior Architect for the time being until a full fledged Town Planning Unit is established.

We are trying to remedy this situation by drawing on the urbanisation experience of other hilly territories where some sort of urban systems have been established. We will also keep in mind the experience of the neighbouring North-Eastern states in this regard.

Our problems are, therefore, basic ground level issues such as construction of roads, bridges and providing drinking water etc. *Town Planning and urban systems in India : Land in India is owned either individually or collectively by the village community which takes care of any needs of its constituents. There are no landless labourers in the conventional sense of the term.*

The problem facing the people is basically one of generating the necessary economic surplus for removing poverty and ensuring growth.



ASSAM

BACKGROUND AND STATUS OF URBANISATION

Assam, with an area of 78,523 sq. km., is one of the 24 states of India. Its population was 146.25 lakhs in 1971 with a density of 286 persons per sq. km. The population is not uniformly distributed in the State due to various factors such as fertility of

soils, availability of irrigation facilities, industrialisation, development activities etc. The variance in density and rural urban population in the districts of Assam as per the 1971 Census are given in Table 1 (1981 Census was not held in Assam).

TABLE 1
DISTRICTWISE DISTRIBUTION OF RURAL, URBAN POPULATION WITH DENSITY

District	Area in sq. km.	Population			Density per sq. km.
		Rural	Urban	Total	
Goalpara	10,359.0	20,52,809	1,72,294	22,25,103	217
Kamrup	9,863.0	25,19,028	3,85,155	28,54,183	289
Darrang	8,775.0	16,32,445	1,03,743	17,36,188	195
Lakhimpur	5,646.4	6,86,250	25,350	7,11,600	126
Dibrugarh	7,023.9	11,83,589	2,27,530	14,11,119	201
Sibsagar	8,989.0	5,08,046	28,562	18,37,389	201
Nowgong	5,561.0	15,61,558	1,14,337	16,80,895	302
Cachar	6,962.0	15,77,626	1,35,692	17,13,318	246
Karbianglong	10,332.0	1,16,402	2,62,908	3,79,310	37
N.C. Hills	4,890.0	70,850	55,197	76,047	16
Assam	78,523.0	13,35,930	12,89,222	1,46,25,152	186

Source : Statistical Handbook of Assam, 1981.

Thus, the density varies from a maximum of 302 persons per sq. km. in Nowgong to a minimum of 16 persons per sq. km. in N.C. Hills. The table also indicates districtwise distribution of rural and urban population of the State.

The percentage of urban population in Assam is only 8.87 against the all-India average of 19.91% according to 1971 census. That is 13.34 lakhs of people out of the total population of 146.25 lakhs are living in 72 towns of the State in 1971

Among the Indian States, Assam ranks third from the bottom as regards the proportion of urban population. On analysis of the trend of urbanisation in Assam, it is observed that, during the colonial period, a few urban centres developed mainly to meet British Commercial interests and for internal civil administration. Only during the last two decades has urban growth in this part of the country been taking place at a fairly rapid rate. Table 2 shows the decennial growth of urban population in the State from 1901 will justify this inference.

TABLE 2

GROWTH OF URBAN POPULATION IN AREA 1901—1971

Year	Population	Decade variation	Percentage decade variation
1901	77,074	..	..
1911	92,916	+15,842	+20.55
1921	1,27,107	+34,191	+36.80
1931	1,62,166	+35,059	+27.58
1941	2,08,067	+45,901	+28.30
1951	3,51,781	+1,43,714	+69.07
1961	7,95,545	+4,43,764	+126.15
1971	13,26,981	+5,31,436	+66.80

Source : Census of India, 1971 (Town Directory), Assam.

It is evident from the Table 2 that, till 1941, no significant increase of urban population had taken place in the State. A considerable growth is observed during 1941—61 which may be attributed to political development, expansion of new administrative centres, increase of industrial and commercial activities and also development of transport and communication.

In 1981 no census operation took place in the State. However, according to estimate of the Registrar General of India, the population of Assam in 1981 is about 20 million of which the urban population is estimated to be about 21.69 lakhs accounting for 10.6% of the total population.

The strategy, process and plan for urban development in Assam

Urbanisation is an important aspect of the process of economic and social development and is closely connected with many other factors such as migration from villages to towns in search of better employment opportunities, better standard of living, better educational facilities etc.

In the background stated above, we must consider the strategy of urbanisation in Assam. Decadal growth of urbanisation in Assam as shown in Table 2 above is too slow. Assam is primarily an agricultural State but its agrarian economy is stagnating. Mostly due to heavy population pressure on limited agricultural land, people are being forced to take shelter in the urban areas. As a result, the density of population in the urban areas goes up.

The density of urban population in Assam is 2,911 persons per square kilometre as per the 1971 census. The density varies from town to town. Mariani, a railway town has the highest density of 10,909 persons per sq. km., followed by Nowgong with a density as 9,090. Guwahati, the only Class 1 town of Assam, has a density of 8,693 and ranks third. High density brings innumerable problems in respect of accommodation, civic amenities etc. which are meagre and limited. Pressure on roads increased with the increase in different modes of transport vehicles and the number of pedestrians, resulting the number of accidents.

Slum pockets crop up along with excessive increase of population in the urban areas. These are breeding grounds for epidemic diseases and shelters for criminals.

Industrial and commercial employment opportunities are limited and the number of unemployed persons is increasing, bringing social and political unrest.

In order to stop haphazard growth of urban settlements, proper planning is necessary. Various agencies and authorities are directly or indirectly involved in the overall development of the towns of Assam. These are briefly described below.

Municipal Administration Department (MAD)

Under the directorate of the MAD are the various Municipalities and Town Committees which are the principal civic bodies. Their functions are governed by the provisions of the Assam Municipal Act. There is also one Municipal Corporation constituted under the Guwahati Municipal Corporation Act. There are thus 23 Municipalities, 43 Town Committees and one Municipal Corporation in Assam.

Town and Country Planning Department

Under this department, there are the Town and Country Planning Organisation and the Assam State Housing Board. The Town and Country Planning Organisation is mainly concerned with preparation of Master Plans and development schemes as per the provisions of the Assam Town and Country Planning Act. Development Authorities are also constituted under this Act for implementation and enforcement of Master Plans. There are at present nine Development Authorities in the State. The Assam State Housing Board is constituted under the Assam State Housing Board Act and its primary function is to cater to the housing needs of the State.

There are other agencies which are indirectly involved in the urban development of the State.

Public Works Department (PWD)

The State PWD, particularly the PWD (Roads) and PWD (Buildings), handle construction and maintenance of most of the urban roads and the buildings owned by Government.

Public Health Engineering Department (PHED)

The PHE Department is in charge of water supply projects—the actual distribution of water to consumers being the function of the respective Municipalities or Town Committees as the case may be.

In addition to the various departments mentioned above, there are other departments, e.g. Department of Industries, the Health and Education Department, the Board for Prevention of Air and Water Pollution etc. which also contribute to shaping the process of urbanisation.

Problems and Suggestions

The existing situation in Assam is indicative of varied forms of urban growth in different parts of the State—the growth being more pronounced in the case of towns belonging to Class IV and V categories. The State as a whole has experienced a faster growth rate of population during the decade 1971–81 than in the previous decade and this has also been more than reflected in the growth of population in the urban sector. The fast growth of the smaller towns have compounded the insufficiency and inadequacy of urban infrastructure and the high cost of land and development and, in the process, there has also been a substantial erosion of cultivable land. The problem of encroachment has seriously affected drainage. Urban development has therefore to be planned from a regional point of view.

There has to be adequate infrastructural planning and development. The problem of migration of rural population can be minimised by a suitable integrated rural development programme. Besides all these, there has to be an Urban Information System and proper monitoring of the various urban development plans and programmes.

The management system of urban administration has to be updated. At present, the Municipalities and Town Committees are the civic bodies mainly responsible for urban development. There are Development Authorities constituted in 9 (nine) towns for enforcement of the Master Plans and Zoning Regulations while Master Plans for many more towns are under preparation. However, in areas where there is neither any Development Authority nor any Municipality or Town Committee, urban development suffers from lack of suitable administration. A Master Plan covers an area much larger than a statutory town and is therefore adequate for ensuring proper administration for a larger area, but a vigorous enforcement in this regard is necessary. In areas where there is no Master Plan, urban administration is limited to the statutory town area only. An adequate legislation to cover the region as a whole is therefore necessary for this. Besides, the Municipality should be entrusted with the power and responsibility of enforcement of the Master Plan and Zoning Regulations till a Development Authority is constituted.

A complete overhauling of Municipal administration is necessary with a view to proper and scientific management of urban planning and also to perform the task of a Development Authority at least till a Development Authority is actually constituted under the Assam Town and Country Planning Act.

The local bodies are constantly dependent on government for finance. While, on the one hand, urban development does not get priority in the matter of fund allocation, on the other there is insufficient public willingness to pay for urban services. As a result, urban growth suffers. Besides, the local bodies have to cater for a large floating population who do not pay for urban services. The only answer is priority treatment for urban development and regional planning. The major financing institutions must come forward and

participate in urban development and this process has to be initiated. Land being mostly owned by the private individuals, becomes a formidable problem for urban development. The land Acquisition Act and all other existing statutory provisions provide adequate safeguards to the landowner. But for the purpose of development it is equally necessary that land be made available easily and also at a reasonable price. For this, the owners must be made effective partners in the development process and can even be allowed a fair share of development benefits. This needs close examination.

Housing is one of the most important elements of urban development and needs proper attention. A large number of people are at the mercy of landlords. Money is extracted from tenants, in various ways, by passing the Rent Control Act. The Urban Areas Rent Control Act needs to be updated and its jurisdiction enlarged.

Mass housing should be encouraged and costly and luxurious buildings discouraged. Incentives may be given to builders in the low and middle income group and housing should be developed as an industry in order to make home building cheaper and less time-consuming. It is also necessary for the State Housing Board to make a correct assessment of the actual requirement of housing and work out programmes accordingly. The labour population and those belonging to the economically weaker sections of the society deserve special care in so far as housing provision is concerned. It should be mandatory for industrialists to provide housing for their labour force and similarly it should be a social obligation of the urban population to provide shelter for those (EWS)—who are mostly servicing the urban population and the cost should be a part of the entire urban development costs and recoverable from the public in one or other way.

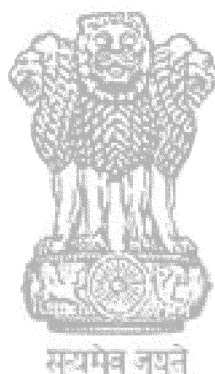
The concept of urban landscape should always be given its due importance. Each and every element of development has to be treated as a part of total urban development, so as to maintain the standard of aesthetics. There is therefore, need for properly monitoring urban development activities by an appropriate authority with a view to maintaining the desired standard of aesthetics and quality of life in urban areas.

A very major obstacle in the way of urban development is the spiralling rise of land prices and unhealthy speculation. The speculators themselves have no genuine interest in planned and healthy urban development. The authorities and genuine developers are forced to pay high prices which results in high cost of development projects. The authority has therefore to be most vigilant in this regard. The practice of keeping urban land vacant for a long time must be discouraged by all means.

Urban development programmes always suffer from lack of up-to-date and sufficient data. Though at the State or District level, sufficient statistical information is available, this is unfortunately not oriented towards urban development. The process of collection and analysis etc. is usually a time-consuming

process, and since the urban scene is changing fast, by the time the data is available, it is likely to be back-dated. Hence there should be an institution properly equipped for and fully devoted to collection and processing and also updating urban data and making it available for any development programme in the shortest possible time. The information system for urban development should be the responsibility of an independent institution which should be developed as a most important Urban institution. The system should have a wide base and should be able to collate and/or interlink the data at regional, state and even national level.

One very important aspect in the process of urban development is public participation and there has to be enough scope for this. A well-based urban information system must take this into consideration for enlisting public participation. The Assam Town and Country Planning Act provides for consulting public opinion, considering objectives etc. on the Draft Master Plans prepared under the Act. But more than this there can be active participation through frequent seminars, exhibitions etc. and through any other process by which people can be associated right from the stage of conception of any urban development programme.



BIHAR

MEMORANDUM IN RESPECT OF URBANISATION IN BIHAR STATE :

I. INTRODUCTION

1.1 The Background :

The Government of India in the Ministry of Urban Development vide D.O. letter No. NCU/3/86 of March, 1986 has conveyed the following decisions to the State Government :—

1. The Government of India has constituted a National Commission on Urbanisation, under the Chairmanship of Shri Charles Correa vide notification No. K-14011/41/85-UD-IIIa dated October 4, 1985.
2. This Commission has been constituted to examine the problems of Urban Development and suggest a suitable direction to carry out future Urban Development Programme and determine strategies of Urban Development in the Country.
3. The terms of the Commission are comprehensive enough to cover demographic pattern, employment trends, physical infrastructure shelter, aesthetic, cultural, legal and fiscal aspects of urbanisation. The recommendations of the Commission are expected to result in a perspective plan of urbanisation for the next 15 years and also set the pace of future growth of urban areas.
4. The Commission has issued a notification soliciting basic information and views which inter alia may include State's perception of urbanisation, factual data relevant to any aspect of urbanisation, analytical study facilitating the identification of the problems and difficulties experienced in the implementation of the projects/schemes related to urbanisation from the State Government Union Territory, Administrations, interested individuals and groups.
5. Functionaries dealing with urbanisation should prepare a comprehensive memorandum detailing the perception of the problems faced by the Government at local, regional and State level(s) in respect of urbanisation, and possible solutions, keeping in view the local aspirations needs and priorities so that the Commission's task for future time of action is made easier.

1.2 Contents of the Memorandum in respect of Bihar State :

In keeping with the above background, a Memorandum has been prepared for BIHAR STATE, and presented in the subsequent pages. In the first phase, the contents of the Memorandum are as follows :—

1. Status of Urbanisation and Urban Management in Bihar State.
2. Basic information and views.

II. STATUS OF URBANISATION AND URBAN MANAGEMENT IN BIHAR STATE :

2.1 Location :

BIHAR is named after Buddhistic Viharas or monasteries for which it was famous during the Buddhist period. The name "Bihar" is a corrupt form of "Vihara" which means a Buddhist monastery.

BIHAR, physically is a land-locked State, squeezed in between West Bengal, Orissa, Madhya Pradesh, Uttar Pradesh and reaching upto the Himalayas in the north.

It lies between 21° 17'-10" and 27° 31'-35" North Latitude and 88° 18'-40" and 83° 19'-50" East Longitude.

The State is bounded on the north by Nepal, on the south by Orissa, on the east by West Bengal and on the west by Uttar Pradesh (U.P.) and Madhya Pradesh (M.P.).

2.2 Area and Population :

The state has an area of 173,876 sq.kms. (67,196 sq. miles) and in 1981, the State's population was recorded as follows :—

Total Population	69,914,734	(69.91 Million)
Rural Population	61,195,744	(61.19 Million)
Urban Population	8,718,990	(8.72 Million)

The urban component accounts for 12.47% of total population and the rural component accounts for 87.53% compared to the 1971 percentages of 10.00% and 90.00% respectively.

It is one of the medium-sized states of India, being the ninth in terms of area. But in terms of population. It is the second biggest state in India, second only to Uttar Pradesh.

In terms of percentages, the State accounts for 5.3 per cent of India's land surface and contains 10.31 per cent of India's total population.

2.3 Physiography :

Bihar State is divided into three district natural regions as follows :—

1. The Himalayan foot-hills.
2. The Gangetic Plain, and
3. The Chotanagpur Plateau.

The Himalayan foot-hills :

In the extreme north-west, bordering Nepal in Champaran District, there are the Dun and Sumeshwar range of hills, comprising the outer range of the Himalayan system and consisting largely of Siwalik rocks. The Dun range of hills is about 32 kms. long while the Sumeshwar runs along 72 kms. at an average height of 450 metres.

The Gangetic Plain :

This extends contiguously south of the Himalayan foot-hills on the north and the south of the River Ganga. Except for the Himalayan foot-hills, the entire area north of River Ganga is comprised of plains. South of the Ganga, the extent of the plain region is roughly marked by the 150 meter contour.

The Gangetic Plain is further sub-divided into North and South Gangetic Plains by the River Ganga.

The North Gangetic Plain consists exclusively of alluvial soil. Its general slope is from north-west to south-east, the direction followed by the major rivers viz. Ghaghra, Gandak, Bagmati, Burhi Gandak, Kosi, Kamala, Tiljuga and Mahananda, all of which originate in the snow-fed Himalayas and flow to join the River Ganga.

The South Gangetic Plain stretches approximately to a width of 60-100 kms. south of the River Ganga after which isolated range of hills start. Apart from a few isolated hills in the southern and eastern fringe (e.g. the Barabar Hills in Gaya District, Rajgir Hills in Nalanda District and Kharagpur Hills in Munger District) the South Gangetic Plain is also a flat stretch of land composed of the alluvial soil with its slope towards the north. The Principal rivers are Sone, Punpun, Phalgu, Karamnasa and Durgawati which flow from south to north to join the Ganga.

The hills of Rajgir have an average elevation of 446 metres, while the Kharagpur range of hills have an average elevation of 300 metres above mean sea level.

The Chotanagpur Plateau :

Immediately south of the Gangetic Plain and the bordering range of hills is located the Chotanagpur

Plateau which abounds in hills, mountain and forests and has an altitude ranging from 300 to 600 metres. The Plateau may be subdivided into the following four district sub-regions with varying altitudes :—

- (a) The north-eastern Santhal Parganas and southern Rohtas District which vary in altitude between 150 and 300 metres are chiefly formed of Gneiss and Granite rocks.
- (b) The western Ranchi Plateau with an average height of 600 metres comprised of high plateaus called "pats". Their formation is of Deccan Lava later turned into laterite and bauxite. This contains rich mineral deposits and the important rivers are sankh, North and South Koel, Damodar and Subarnrekha.
- (c) The remaining portions of Ranchi District and part of southern Hazaribagh District comprise the next sub-region with an altitude of about 600 metres. The formation of this area is mostly gneiss and granite and contains rich mineral deposits.
- (d) The Lower Chotanagpur Plateau, average 300 metres above mean sea level. It girdles the Ranchi Plateau from Palammu to Hazaribagh and extends down to Singhbhum. The formation is largely gneiss and granite and partly of schists and Dharwar rocks.

The Chotanagpur Plateau contains rich mineral deposits of the following six broad categories :—

- (a) Mineral fuels; Coal and Petroleum.
- (b) Ferrous Minerals : Iron Ore, Manganese Ore, Chromite, and Nickel.
- (c) Non-ferrous Minerals : Copper Ore, Bauxite, Lead-zinc Ore, Cassiterite.
- (d) Noble Metals : Gold and Silver.
- (e) Industrial Non-Metallic Minerals; Apatite and other Phosphates, Asbestos, Barytes, Bentonite, China clay, Dolomite, Feldspar, Gemstones, Fireclay, Graphite, Kyanite, Limestone, Mica, Magnesite, Pyrites, Quartzite Silica sand, and Building Materials.
- (f) Atomic Minerals : Uranium Ore and Beryl.

In addition to rich mineral deposits, the Chotanagpur Plateau contains Tropical Moist Deciduous Forest. The general characteristics of "Forests" in Bihar State are as follows :—

- (i) Forests in Bihar account for nearly 16.8 per cent of the area of the State and are spread mostly in the Chotanagpur Plateau Region and the sub-montaneous vegetation in North Bihar.

In addition Tropical Dry Deciduous Forests are found mainly in the central parts of the Gangetic Plains.

- (ii) The forest regions in Bihar are confined almost wholly to the Chotanagpur Plateau Region; with Small pockets in Rohtas, West and East Champaran Districts.
- (iii) The districts of Chapra, Muzaffarpur, Darbhanga and Saharsa in the North Gangetic Plains have no forests at all.

2.4 Administrative Division :

For administrative purposes, Bihar State is divided into the following hierarchy :—

- (1) **DIVISIONS** : The State is divided into ten administrative DIVISIONS, each under the charge of a Divisional Commissioner, as follows :—

North Bihar : Tirhut, Saran, Darbhanga and Kosi Divisions.

South Bihar : Patna, Bhagalpur and Magadh.

Chotanagpur : Santhal Parganas, North Chotanagpur and South Chotanagpur.

- (2) **DISTRICTS** : The above ten DIVISIONS have been subdivided into 39 Districts, each under the charge of a District Magistrate.

- (3) **SUBDIVISION/COMMUNITY DEVELOPMENT BLOCK** :

Data in respect of area, population and number of sub-divided into 74 Sub-Divisions and 552 Police Stations for maintenance of law and order and into 587 C.D. Blocks for development purposes and revenue administration.

Data in respect of area, population and number of towns has been presented in TABLE I hereinafter. This will indicate amongst other things that in the North Chotanagpur Divisions, South Chotanagpur Division, Patna Division, and Bhagalpur Division the percentage of urban to total population is sufficiently high.

TABLE I
AREA POPULATION AND NUMBER OF TOWNS IN THE TEN ADMINISTRATIVE DIVISIONS OF BIHAR STATE—1981

Administrative Division	Area in sq kms.	Total population 1981	Urban population 1981	% of urban to total population	No. of Town
District					Total Class I
1	2	3	4	5	6
I. SARAN DIVISION (Chapra, Siwan, & Gopalganj).	6866.20	5225375	315884	6.05	10 (Chapra)
II. TIRHUT DIVISION (Muzaffarpur, Sitamarhi, East Champaran, West Champaran and Vaishali)	15968.60	10350173	642901	6.21	18 (Muzaffarpur)
III. DARBHANGA DIVISION (Darbhanga Samastipur, Dadhubani and Begusarai).	10447.60	7907153	490804	6.21	12 (Darbhanga)
IV. KOSI DIVISION (Saharsa, Purnea, Katihar and Madhepura)	15870.40	7978140	590352	7.40	18 (Katihar)
V. PATNA DIVISION (Patna, Bihar, Arraha, Rohtas)	16662.80	9434451	1832154	19.42	31 (Patna, Bihar & Arrah)
VI. MAGADH DIVISION (Gaya, Nawada, Aurangabad & Jehanabad)	12387.00	5470424	498952	9.12	13 (Gaya)
VII. SANTHAL PARGANAS DIVISION (Dumka, Deoghar, Godda, and Sahibganj).	13512.80	3717528	256093	6.89	12 Nil
VIII. BHAGALPUR DIVISION (Munger and Khagaria)	13330.60	5936854	773899	13.04	17 (Bhagalpur & Munger)
IX. NORTH CHOTANAGPUR DIVISION (Dhanbad, Giridih and Hazaribagh)	20805.20	6044782	1649737	27.29	50 (Dhanbad & Bokaro Steel City)
X. SOUTH CHOTANAGPUR DIVISION: (Ranchi, Gumla, Singhbhum Palam & Lohardaga)	41708.30	7849759	1668215	21.25	39 (Ranchi and Jamshedpur)
TOTAL	173877.00	69914734	81718990	12.47	220

2.5 Urban Management :—

There are 220 towns in the State of Bihar, according to the 1981 Census, whose urban management is being done by the following statutory bodies :—

1. 168 towns are administered by statutory local bodies and the remaining 52 towns have no statutory local body. (Appendix 1).
2. Out of these 168 towns, the Six Division at head quarter towns of Patna, Bhagalpur, Darbhanga, Muzaffarpur, Gaya and Ranchi have Municipal Corporations set up under the Patna Municipal Corpn. Act, 1951.
3. Out of the remaining 162 towns, 68 towns have Municipalities and 96 towns have Notified Area Committee (NAC) set up under The Bihar and Orissa Municipal Act, 1922.
4. The five Divisional headquarter towns of Patna, Darbhanga, Muzaffarpur, Gaya and Ranchi have Regional Development Authorities which are statutorily charged with the responsibility of preparation and enforcement of Master plans for planned development of these towns, as well as for preparation and implementation of urban development schemes.

These Authorities have been set up under the Bihar Regional Development Authority Act, 1981.

5. During 1984-85, a Coal Mining Development Authority has been set up for Dhanbad District with the objective of integrated development of the settlements in the Coal Mining Area.

This Authorities has been set up under the Bihar Coal Mining Area Development Authority Ordinance, 1984.

The Urban Development Department is the administrative Department for Urban development in Bihar State. This Department through the above statutory organisation is concerned primarily with regulating the planned development of the towns as well as with the implementation of the following Urban Development Schemes.

1. Water Supply;
2. Drainage and Low Cost Sanitation;
3. Provision of civic amenities;

4. Improvement of urban slums;
5. Integrated Development of Small and Medium Towns;
6. Improvement and upgradation of Urban Roads; and
7. Preparation and enforcement of Master Plans through the Regional Development Authorities.

The financial resources for meeting these responsibilities are the State Plan outlay and the revenue of the local bodies/Authorities. The main source of revenue of the local bodies are property tax, water tax and latrine tax, supplemented by Loans and grants released by the State Government.

The main sources of revenue of the Regional Development Authority are additional stamp duty on sale/purchase of property. Building Plan fees, contributions from local bodies and marketing Board, supplemented by grants in-aid released by the State Government as also Market borrowings and Institutional finance.

2.6 State Plan Outlay for URBAN DEVELOPMENT

The Schemes of the Urban Development Department are grouped into three major Sectors namely (a) Sewerage and Water supply sector (b) Urban Development Sector and (c) Urban Roads and Bridges Sector.

The Sewerage and Water Supply Sector covers the Schemes of Urban Water Supply, Subernrekha Water Supply Scheme (Getalsud-Project). World Bank Project for Water Supply and Sanitation, water supply Schemes to be funded by Life Insurance Corporation, Sewerage and Drainage and Low Cost Sanitation.

The Urban Development Sector includes the Schemes of Provision of Civic Amenities, Master Plan and training in Town Planning Grants-in-aid to Regional Development Authorities, Environmental Improvement of Urban Slums (EIUS), Integrated Development of Small and Medium Towns (IDSMT) and Rickshaw Pullers Welfare Scheme.

The Urban Roads and Bridges Sector includes the Schemes of improvement/ungradation of urban roads including construction of culverts etc.

The outlay in the three Sectors of the Urban Development Department during the Sixth and Seventh Five Year Plan and Annual Plan of 1985-86 have been follows :—

Sector	Sixth five year Plan (Rs. in lacs)	Seventh five year 1985-86 plan (Rs. in lacs)	
	2	3	4
1. Sewerage and Water Supply Sector	2,458.75	6,530.00	1,090.00
2. Urban Development Sector	1,100.00	1,900.00	300.00
3. Urban Roads and Bridges Sector	860.00	1,700.00	400.00
Total	4,418.75	10,130.00	1,790.00

2.7 Existing Planning Legislation

The following eleven main laws are at present operating in the State and contain certain provisions of enabling the planning and development of Urban infrastructure on merely provide certain kinds of development control within the area of operation :—

1. The Bihar and Orissa Municipal Act, 1922
2. The Patna Municipal Corporation Act, 1951
3. The Bihar Restriction of Uses of Land Act, 1948
4. The Bihar Town Planning and Improvement Trust Act, 1951
5. The Bihar State Housing Board Ordinance, 1971
6. The Bihar Industrial Areas Development Act, 1974.

7. The Bihar Agricultural Produce Market Act, 1960, as amended by Bihar Agricultural Produce Market Ordinance No. 124 of 1974.
8. Command Area Development Authority for Kosi, Gandak and Sone (Set up through executive orders)
9. The Bihar Panchayat Samities and Zila Parishad Act, 1961.
10. The Chotanagpur and Santhal Parganas Development Authority Act, 1971.
11. The Bihar Regional Development Authority Ordinance, 1975.

III. BASIC INFORMATION AND VIEWS

3.1 Demographic Profile

According to the 1981 census, Bihar State had an Urban Population of 8.72 million distributed in 220 urban settlements, as given in Table II.

TABLE—II

GROWTH IN NUMBER AND POPULATION OF TOWNS BY SIZE—BIHAR STATE—1971-81

Class of Towns	1971			1981			% Growth Rate of Population 1971-81
	Number	Population	% to total	Number	Population	% to Total	
1	2	3	4	5	6	7	8
Class I	9	1,821,061	32.32	14	3,547,207	40.68	94.79
Class II	11	761,014	13.51	25	1,619,771	18.58	112.84
Class III	51	1,588,909	28.20	75	2,204,073	25.28	38.72
Class IV	72	1,051,929	18.67	72	1,118,110	12.82	6.29
Class V	47	365,324	6.48	29	214,326	2.46	(—)41.33
Class VI	12	45,729	0.82	5	15,503	0.18	(—)66.10
TOTAL	202	56,33,966	100.00	220	8,718,990	100.00	54.76

Source : Census of India 1971 and 1981.

Bihar State has had an increasing trend of urbanisation varying from 6.77% in 1951 to 8.43% in 1961 to 10% in 1971 and 12.47% in 1981 of the total population. It has been estimated that by 1991 and 2001, the percentage of urban population to total population of Bihar State will be of the order of 15.63% and 17.60% respectively, against country's corresponding percentage of 27.48% and 33.06% respectively.

3.2 Characteristics of urbanisation

The following important characteristics emerge in respect of urban population of Bihar State :

1. While the percentage variation of total and rural population during 1901—1981 has ranged between 3% to 24% the percentage variation of urban population has been very fast, ranging from 8% to 54.76% (Table I).
A major contributing factor to this fast rate of urban population variation has been the rural-urban migration.
2. The growth of urban population in Bihar State has had an accelerating trend in as much as

the percentage of urban to total population in Bihar State since 1901 has been increasing as 4.02%, 3.81%, 4.14%, 4.54%, 5.40%, 6.77%, 8.43%, 10.00% and 12.47% respectively during each Census.

3. The percentage of urban to total population is highest (27.29%) in the minerally rich North Chotanagpur Division, followed by South Chotanagpur Division (21.25%) which contains the important industries and industrial towns.
4. The percentage of urban to total population in the South Gangetic Plain varies from 19.42% in Patna Division to 13.04% in Bhagalpur Division.
In the North Gangetic Plain this percentage ranges between 6.05% in Saran Division to 7.40% to Kosi Division.
5. The District of Dhanbad is the highest urbanised, inasmuch as 50.62% of the population

lives in the urban areas. This is followed by the districts of Patna (37.22%), Singhbhum (32.07%) and Ranchi (31.74%).

The district of Madhubani is the least urbanised (3.11%) followed by the districts of Gumla (3.96%), Samastipur (4.16%), Siwan (4.41%) and Gopalganj (4.99%).

6. There is concentration of population in the Class I cities, inasmuch as almost 32.32% of the total urban population and 40.68% of the urban population lived in the 14 Class I cities during 1981 Census.
7. The Small and Medium Towns (Population range of 20,000 to 100,000 persons i.e. Class II and III towns) also contain almost 40% of the total urban population of the State. During 1971 nearly 41.71% of the urban population lived in the 61 Class II and III towns and during 1981 nearly 43.86% of the total urban population lived in the 200 towns of Class II and III category.
8. Among the Class I Cities, the industrial towns of Ranchi and Bokaro Steel City have recorded the highest percentage decade variation during 1971—81 with the figures of 178.30% and 138.38% respectively.
9. The State Capital of Patna has recorded 71.25% decade variation (1971—81) followed by Katihar (52.27%) Bihar (51.27%) Muzaffarpur (50.67%) and Dhanbad (50.58%).
10. The Growth rate of the Class II towns during 1971—81 has been very high being (+) 159.32, followed by the Class III towns with (+) 62.80.

The Class V and VI category of towns have had a negative growth rate during 1971—81 being (—) 17.67% and (—) 40.92% respectively.

3.3 Distribution Pattern of Urban Settlements in Bihar

The following are the board Distribution Pattern characteristics of the urban settlements in Bihar State :—

1. A relative concentration of towns (almost 50% of the total towns of Bihar) occurs in the triangle whose apices are about the point where the Ganga leaves Bihar on the east and where the Gandak and Sone enter the State on the west.

This can be accounted for by the fact that this triangle is the cultural heart of historic importance not only in Bihar State but in India also.

The southern side of this triangle is roughly contiguous with the northern edge of Chotanagpur Plateau and as such there are a number of CONTACT ZONE TOWNS NEAR this line i.e. Aurangabad, Sherghati, Rajauli, Nawada, Gaya, Hisua, Jamui, Jhajha, Banka, Kharagpur, Sahebganj, Rajmahal etc.

2. The maximum concentration of towns within this triangle is along the River Ganga, because this was the most important artery of communication between the upcountry and the delta before the middle of the nineteenth century.

The triangle also contains within itself all the major rivers of the State, namely the Ganga, Gandak, Ghaghra, Burhi Gandak and the Sone. The other important factors responsible for concentration of towns in this triangle has been a comparatively well-developed communication routes and availability of raw materials for development of a number of industries.

3. The northern and north-eastern part of the Ganga Plain that is left outside the above triangle and extending from the Himalayan foot-hills in the west to the eastern border of the State, contains only 18 towns, mostly small sized being either administrative headquarter towns or sugar-factory towns or ricemilling towns.

This relative paucity of towns in this Zone, can be accounted for by the fact that the area is subject to flooding, particularly in the Kosi basin and also has poor lines of communication. However with the implementation of the Kosi project, conditions are anticipated to improve.

4. Almost 40% of the towns of Bihar State occur in the Chotanagpur Plateau Region and the neighbouring hilly areas.

This is because this Region is the richest mineralised zone of India and since the middle of the nineteenth century, a number of coal and mica-mining towns began to spring up in this area. Subsequently steel, copper and cement industries gave birth to other mining and manufacturing towns.

The increased tempo of industrialisation since independence and the subsequent development during the various five Year plans have brought about as number of new towns e.g. Sindri, Bokaro, Bokaro Steel City and expansion of the existing towns of the Region.

5. The most notable VACANT AREAS in respect of urban settlements in Bihar are the following :—

- (i) the relatively densely forested part of the western and southern districts of Bihar State and Western Singhbhum;
- (ii) the dissected and forested uplands of the upper North Koel valley of Palamau District;
- (iii) the dissected and forested Rajmahal Hills;
- (iv) the flood-devasted Upper Kosi-basin of evershifting courses; and
- (v) the extensively forested scarped parts of the Hazaribagh Plateau and the Upper Damodar Valley.

6. There are a number of "CONTRACT ZONE TOWNS" in Chotanagpur, particularly along the base of the different steep excarpments that border the different peneplains or erosion surfaces. Such towns have developed because before the advent of the motor transport (12th century), they provided a place of rest for travellers and transport animals, before ascent over the steep escarpments.

The towns under this category are of two types. The first type are the towns that occur at the junction of the 200 ft. surface and the next higher plateau (part region is north, north-west Ranchi and South Palamu). Lohardaga and Gumla towns fall in this type. Then along the next inner line of escarpment that form the junction between the outer 1000 ft. plateau and the inner 2000 ft. plateau in Ranchi and central Hazaribagh, there is another series of sarpfoot towns like Ramgarh Ichak, Bundu, Kharsawan and Chakradharpur.

7. There are two areas in the State where there is remarkable Bunching of Towns. The first is the metropolitan agglomeration of Patna-Danapur-Khagaul, Fatwah-Hajipur and the second agglomeration is formed by the Dhanbad-Jharia-Sindri-Katras towns group in the lower Damodar Valley. While in the Patna case the multiplicity of towns is based on the cultural, historical, administrative and hydrological factors, that in the Dhanbad case is due mainly to the industrial potentialities of the mineral resources on which the towns are perched.

ANNEXURE I

State Plan outlay

Seventh Five Year Plan (1985-90)

I. ABSTRACT OUTLAY

	(Rs. in lakhs)
1. Urban Roads.	2500.00
2. Urban Water supply	8255.00
3. Urban Development	2325.00
Total	13,080.00

II. URBAN DEVELOPMENT SECTOR:

	Rs.
1. Financial assistance to local bodies or non-remuneration Scheme:	200.00
2. Financial assistance to local bodies for remunerative Scheme	125.00
3. Master Plan and Training in Town Planning	100.00
4. Grant to Regional Development Authorities and Town Planning Authorities.	500.00
5. Environmental Improvement Scheme	550.00
6. Integrated Urban Development	800.00
7. Rickshaw Pullers Welfare Scheme	50.00
TOTAL	2,325.00

IV. POINTS FOR CONSIDERATION OF THE COMMISSION

1. *Urban land policy* : If land of the scale needed for urbanisation and urban development is to be made

available, a well thought of urban land policy should be enunciated. The aim of such a policy is suggested as follows :—

- To secure adequate land at a reasonable cost and at the right time.
- To evolve more effective measures for land use control after taking into consideration the needs of the Urban Poor as well.
- To evolve a set of taxation measures which will enable the implementing agencies to make up the unearned increase in land values and this additional resources, can be used for additional funds for urban development.
- To spell out amendments in the land acquisition act so that land at a reasonable price is available for urban development activities.
- Urban Land Bank* through purchase of land to become rural to urban use and pay compensation and agricultural or present use value, which will facilitate acquisition of land at a cheaper price for Urban Development Programmes.

2. *Creation of a revolving fund* : The present plan allocating both at the centre as well as at the State level is quite inadequate as compared to the magnitude of the funds required for implementation of Urban Development Programmes.

It is, therefore, suggested to create an Urban Development Revolving Fund. This fund should also utilise a portion of the Taxes, which have a direct bearing with urban development.

3. *Amendments to Planning Legislation* : To a large extent the existing planning legislation are ineffective and inadequate particularly in the light of magnitude of urban population and the need for related urban control and management. Most of the existing legislations do not take care of the urban slums, and the economically weaker section and the shelterless population.

It is, therefore, suggested that revision of most of the existing legislation as well as enactment of new legislation should be taken up.

4. *Strengthening of organisational framework* : The problems of Human Settlements Development, both existing and anticipated, are formidable in size and complexity. The present Planning and implementation agencies, which were created decades back need to be strengthened.

It is, therefore, suggested that the Planning and Implementing organisational framework should be organised and the Central Government should provide financial assistance for this purpose.

5. *Strengthening of Municipal Administration* : The Municipal Administration, most of which, were established long back, and were designed to cater to the needs of the population of nearly 5 to 6 decades back are today charged with many increased responsibilities. Thereby the existing Municipal Administration and Machinery is enable to manage the affairs effectively.

It there is, therefore, urgent need of strengthening the municipal administration.

6. *Utilising Small and Medium Towns as levels of growth* : Due to a number of Socio-economic factors the migration of Rural and Urban Areas have been increasing. It is necessary, therefore to find in intermediate point between the large city and the villages, which could act as service centre and thereby minimize migration.

It is, therefore, suggested that the Central Government should continue the Centrally Sponsored Scheme of I.D.S.M.T. during the coming Five Year Plan also.

7. *Additional towns under IDSMT* : In this State 31 district headquarter towns are eligible for assistance under this Scheme, out of which only 19 have been covered till the Seventh Five Year Plan. In addition there is also a case for inclusion of some more towns located along the River Ganga, as inclusion of towns on the banks of Ganga under this programme will provide support to the Ganga Action Plan.

The Commission would like to consider these points.

8. *Priority for Slum Improvement programmes* : The State's urban settlements have an estimated 2.52 million slum population at present, which is estimated to increase to 3.27 million by 1990.

With the funds available with the State Government and the "Incentive Grant" released by the Central Government during 1982-84, it has been possible to cover only 0.182 million slum population i.e. only 7.20% of the total slum population.

This being one of the **PRIORITY PROBLEMS** of urban areas, the Commission would like to consider recommending the revival of the **INCENTIVE GRANT** scheme and provide additional central assistance on matching basis.

9. *UNICEF assisted Programme* : The Government of India has launched during 1985-86 a Centrally Sponsored Scheme called the **URBAN BASIC SERVICES WITH UNICEF** assistance. The objective is the provision of basic services of reasonable quality and essential amenities etc. mainly designed to **ALLINEATE THE LIVING CONDITIONS OF THE URBAN POOR**, particularly the women and the children.

This Programme will go a long way to providing additional finance for improvement of the living conditions in the urban slums.

The Commission would therefore, like to consider and approve the proposal of increasing the Scope of coverage of larger number of towns and Districts particular to cover the areas along the River Ganga and the Tribal populated areas.

10. *Additional funds for Drainage and Wated Supply* : The growing urbanisation has caused a severe constraint on the availability of drainage, sewerage and water supply facilities, resulting into unhealthy living

conditions. The funds available in the State Plan for these facilities are grossly inadequate and the local bodies on account of constraint of resources are not in a position to discharge their basic responsibilities.

The Commission would therefore like to consider to take up some Centrally Sponsored Programmes in key areas like urban Water Supply and drainage and sewerage facilities. A programme on the pattern of **ACCELERATED RURAL WATER SUPPLY PROGRAMME** could also be conceived and implemented for **URBAN WATER SUPPLY**, particularly in towns which are flood-prone, drought-prone and also in towns which have a population of one lakh and above.

11. *Committee at national level for financial of local bodies* : Another vexed issue which has been engaging the attention year after year relates to the Strengthening of the financial and organisational resources of the local bodies. The existing resources have practically failed to maintain even the existing services at a reasonable level.

The Commission would like to consider to set up a "Committee at the National Level" to go into these aspects and identify the resources of the local bodies and suggest ways and means of augmenting them.

PROCEEDINGS OF THE FIRST MEETING OF THE OFFICERS/ORGANISATIONS. FOR PREPARATION OF MEMORANDUM FOR NATIONAL COMMISSION ON URBANISATION HELD ON 19-9-1987 AT 11.00 A.M.

I. PRESENCE

The Meeting was held on 19-9-1987 at 11.00 A.M. in the Office-chamber of the Secretary, Urban Development Department under the Chairmanship of Sri Abhimanyu Singh, Secretary, Urban Development & P.H.E.D.

The list of participants is enclosed as Annexure I.

II. PROCEEDINGS

2.1 At the outset the Secretary, Urban Development Department (U.D.D.) mentioned that the National Commission on Urbanisation, set up by the Government of India, visited Patna on September 11-12-1987 when a Memorandum in the form of a Status Paper was presented by the Department.

A revised Memorandum has now to be submitted to the Commission incorporating the deliberations with the Commission and spelling out the problems of urbanisation and the proposed strategy with an Action Plan.

He informed the participants that the Terms of Reference of the Commission, as reproduced below, will have to be kept in mind while preparing the Memorandum :—

- (i) To examine the state of urbanisation in the country with reference to the present demographic, economic, infrastructural, environ-

mental, physical, shelter, energy, communication, land, poverty, aesthetic and cultural aspects;

- (ii) To identify priority action areas, projections of future needs and estimate available resources;
- (iii) To formulate and recommend basic guidelines for the specific action plan in each of the identified priority action areas".

2.2 The Chief Town Planner requested the participants to enclose a few Maps and Diagrams to explain the contents of their Note.

2.3 The Special Secretary suggested that the Memorandum should contain specific Recommendations aimed to solve the problems arising out of urbanisation.

2.4 After detailed deliberations, the following decisions were taken for follow-up action :—

- (1) BISWAS Board will prepare a Note alongwith Maps and Diagrams explaining the existing status of *Sewerage System* in Bihar State, with particular reference to Patna, Munger, Bhagalpur and Chapra, which are the towns covered under the Ganga Action Plan.

The Board will also identify the priority action areas, constraints and prepare a *Sewerage System Perspective*.

(Action : BISWAS Board)

- (2) PHED will prepare a Note alongwith Maps and Diagrams explaining the following aspects in respect of *Water Supply* :—

- (i) Existing status and coverage of towns.
- (ii) Constraints in the implementation of the schemes and identify the priority action areas upto 2001 A.D.
- (iii) Perspective Plan for Water Supply System for meeting the demand by 2001 A.D.

(Action : P.H.E.D.)

- (3) The Joint Secretary of the U.D.D. in consultation with the Patna Municipal Corporation will prepare a Note in respect of *Local Bodies* of Bihar State : explaining the following aspects :—

- (i) Existing status and coverage of towns by Corporation Municipalities and N.A.C., the systems of administration, legislative and budgetary provisions and the new responsibilities added due to fast rate of urbanisation.
- (ii) Existing constraints in respect of staff, financing pattern and management of the urban services, particularly Garbage Disposal and Solid Waste Management.

- (iii) Recommendations in respect of coverage of other towns and removal of the constraints for the various grades of local bodies in Bihar State.

(Action : Joint Secretary, Urban Development Deptt.).

- (4) The Sulabh International will prepare a Note alongwith Maps and Charts/Diagrams in respect of *Low Cost Sanitation* in Bihar State, explaining the following aspects :—

- (i) Existing coverage of towns and the ways and means available for Low Cost Sanitation Programme and the constraints for successful implementations.

- (ii) Anticipated financial and management needs for coverage of urban settlements by 2001 A.D.

- (iii) Perspective Plan for Low Cost Sanitation upto the year 2001 A.D. explaining the Policy Framework and the financial resources needs and management system.

(Action : Technical Adviser, Sulabh International).

- (5) The Director, Vaishali Nav Nirman (P) Ltd, will study the role of *Cooperative Societies* in meeting the shelter needs of towns of Bihar State. Based on this study, he will prepare a Note alongwith Charts/Diagrams explaining : the following aspects :—

- (i) Existing pattern of coverage and financing of housing programmes in Bihar State, and the role being played by Co-operative Societies.
- (ii) Achievements and coverage of housing needs in the various towns by the Cooperative Societies and the constraints in respect of financing, planning and legislative methods.
- (iii) Recommendations for a more wider coverage by the Cooperative Societies to meet the housing needs by 2001 A.D.

[Action : Director, Vaishali Nav Nirman (P) Ltd. Patna].

2.5 The Secretary, requested all the participants to prepare and submit the respective Notes latest by 9-10-1987. After the receipt of these Notes, the Chief Town Planner will co-ordinate and prepare a Draft Memorandum incorporating the study and recommendations in these Notes, latest by middle of October 1987.

2.6 It was also decided to issue letters to the Departments of Energy, Environment, Employment, Housing Board, Industries, Revenue, State Road Transport Corporation and Tourism Development Corporation, with a request to prepare Notes and Recommendations concerning their subject. The Commission has sent a list of issues to be discussed by

each of these Departments/Organisations and the letter should include a copy of this list.

After the receipt of these Notes and Recommendation by 9-10-1987, the Chief Town Planner will coordinate and prepare a Draft Memorandum incorporating these Notes and Recommendations, latest by the middle of October, 1987.

(Action : Chief Town Planner, Bihar).

Sd/-
ABHIMANYU SINGH
Secretary to Government

Memo No. 3/Na-Ni/VI-1-334/87.....dated
23 Sept' 87.

Copy for information and necessary action to all the participants.

Sd/-
S. K. SINHA
Chief Town Planner, Bihar

Memo. No. 3/Na-Ni/VI-I-334/87..... dated
the Sept' 87.

Copy for information to :—

- (1) Chief Secretary, Bihar.
- (2) Development Commissioner, Bihar.
- (3) Sri V. V. Nathan, Sectoral Commissioner, Bihar.
- (4) Sri Naresh Nared, Member Secretary, National Commission on Urbanisation, Ministry of Urban Development, Government of India, Nirman Bhawan, New Delhi.

S. K. SINHA
Chief Town Planner, Bihar

ANNEXURE I

PARTICIPANTS IN THE FIRST MEETING OF THE OFFICERS/ORGANISATIONS FOR PREPARATION OF MEMORANDUM FOR NATIONAL COMMISSION ON URBANISATION HELD ON 19-9-1987

I. Urban Development Department :

1. Sri Abhimanyu Singh, Secretary
2. Sri Chunchun Jha, Special Secretary
3. Sri S. K. Sinha, Chief Town Planner
4. Sri A. K. Singh, Joint Secretary
5. Sri M. S. Ahmed, Associate Planner, Patna

II. Public Health Engineering, Department

6. Sri S. N. P. N. Sinha, Managing Director, BISWAS Board
7. Sri Nabendu Das, Engineer, in-Chief
8. Sri S. Z. H. Jafri, Joint Secretary

III. Corporation/Organisations

9. Sri R. P. Singh, Chief Executive Officer, Patna Municipal Corporation.
10. Sri Ramesh Chandra Sinha, Vaishali Nav Nirman (P) Ltd., Boring Canal Road, Patna.
11. Sri Satyanarayan Jha, Technical Adviser, Sulabh International, S. K. Nagar, Patna.

GOA, DAMAN & DIU

A NOTE ON DIFFERENT ASPECTS OF URBANISATION IN GOA, DAMAN & DIU

TOTAL population of Goa, Daman & Diu 1981	10,86,730
Decennial population Growth rate (1971-81)	26.69%
Area	3814 Km
Percentage of Urban Population	32.37
Urban growth rate (1971-81)	55.14
Percentage of Urban workers:	
(a) Main workers	34.52
(b) Marginal workers	1.95
(c) Non workers	66.53
Urban Housing Stock (1981)	65399
Urban Housing Shortage (1981)	3677

Aspects of Demographic Pattern Employment & Physical Infrastructure

At the time of its liberation in 1961, Goa, Daman & Diu had a relatively Small Population of about six lakhs and a low profile of socio-economic development. However, with the ushering in of the area of planned economic development immediately after liberation, the territory underwent a considerable change in its socio-economic life. In the first decade (the sixties) there was a considerable, and almost sudden expansion in the educational facilities at every level (primary, secondary, middle and collegiate). The banking and insurance service witnessed a fast expansion, leading commercial and trading houses of the country extended their activities to this territory, a considerable expansion in the public sector services and consequent employment in Government Departments took place, the rural economy, which was almost stagnant in the erstwhile regime, got a facelift with new investments in agriculture, animal husbandry, fishery, forestry etc. The mining activity also witnessed considerable expansion due to rising exports (quantity as well as price) and provided gainful employment to a large number of workers. All the sudden spurt in economic and social activity resulted into a large scale influx of labour in the territory from the neighbouring as well as far off states of the country.

The process of rapid economic growth continued unabated in the seventies and the first half of the eighties also. A more noteworthy as well as significant

aspect of this period was the large scale construction activity that started towards the end of sixties and continued through the seventies.

Construction of big irrigation projects like Selauli and Anjunem have attracted unskilled labour in large numbers from far off places. Several road works bridge works and house construction works have also resulted in influx of labour. The Mormugao Port Trust as well as the Indian Navy expanded their activities (giving rise to various construction works also) which further resulted in migration of labour.

A few major industrial units and a large number of small scale units (more than 4000) were also established in the seventies and in the first half of eighties, attracting skilled as well as unskilled labour.

An important spin-off of this fast increasing economic activity in the territory was the tremendous rise in its urban population. The following may be studied in this context :

TABLE 1

Year	Urban Population	Urban Population as proportion total population	Decadal growth in urban population	
			Absolute	Relative
1961	1,00,664	16.06	11,253	12.59
1971	2,26,774	26.44	1,26,110	125.28
1981	3,51,808	32.37	1,25,034	55.14

Note : (For the whole country, the proportion of urban population is 23.73% in 1981)

The growth of urban population has been very fast indeed, so much so that we have now almost every third person living in an urban area. What is more important to note is the fact that this fast growth of urbanisation is mainly exclusively limited to the four coastal taluka of Goa viz. Bardez, Tiswadi, Mormugao and Salcete. The highest rate has been witnessed in the Mormugao taluka where the taluka headquarters, Mormugao town, witnessed a growth of 975% over the last 20 years (the population went up from 6483 in 1961 to 69684 in 1981). Interestingly, more than 70% of the total urban population

of the territory (1981) is concentrated in the towns of Mormugao (Vasco-da-Gama), Panaji, Margao, Mapusa and Ponde. The density of population in Mormugao and Panaji has now reached almost 6,000 persons per km. sq. which is indeed too high.

Appendix to this report given the projections of townwise population in the year 2001.

The fast rise in urban population has inevitably led to some undesirable developments. For example, slums have sprung up in the towns of Vasco-da-Gama, Margao, Panaji, Mapusa, etc. Simultaneously, the problem of unauthorised construction of huts/houses on public or private lands has also raised its ugly head, notably in the town of Mormugao. Further more, an unusual lurch in the prices of land and other immovable properties has occurred in the towns of this territory. The house rental values have almost skyrocketed. This has only abetted the spiralling inflation leading to erosion of real incomes of the poor.

The high densities of population in the leading towns of Goa, coupled with slums and the unauthorised house constructions, are bound to have undesirable social consequences. The peaceful and harmonious life, which has been a special characteristic of Goa, is jeopardised, incidents of strikes, lockouts, agitations, etc., are no more uncommon. The Goa towns which were once known for a high standard of sanitation and cleanliness, have now become dirtier and somewhat unhygienic and filthy, due to congestion, slums etc. The traffic accidents have also very considerably increased in the last one decade or so. If this fast rise is allowed to continue unchecked the extra population is bound to spill over the interior areas which may scar and scorch the beautiful landscape of Goa. In fact, this type of damage has already been done in some area, notably the Mormugao taluka. In the ultimate analysis, this type of unplanned growth of towns and its long-term effects on rural areas, may be considerable harm to the quality of life including to the tourism potential. Since Goa is banking on the development of tourism as an important factor contributing to its future economic prosperity, this aspect assumes special significance.

As there is a shortage of unskilled labour in this territory, there is some amount of unemployment amongst the educated youth, in particular amongst the young boys and girls who have the general education but are not qualified in any technical branch of education. As on 31st March 1984, there are in all about 32,000 persons on the Live Register of the Employment Exchange, but it is believed that many of the persons registered with the Employment Exchange are actually employed in offices, industrial units, private business houses, shops etc., but have registered themselves as unemployed for better prospects. The real magnitude of the problem of educated unemployment is not very large yet, as it would not be more than about 6% or 7% of the total force

Unique Rural-Urban Relationship in Goa

Unlike in most of the states and other Union Territories of the Country, there has been a unique urban-rural relationship in this territory in the sense that apart from the residents of the main goan towns, a fairly large proportion of the rural population commutes almost daily to the leading towns for the purposes of employment, education, business, marketing, court cases, etc. entainment works with Government Departments etc. In other words, most of the villages within a radius of 20 to 30 kms. of the leading towns of Goa serve as dormitories for the population who work in the towns or otherwise heavily depend on the socio-economic activities of the towns. This unique relationship is now being disturbed greatly due to tremendous rise in population and resultant heavy densities of population in the towns. Many of the new immigrants to this territory find it impossible to get suitable living accommodation in the main towns and therefore moved farther to settle down in neighbouring villages. This is amply borne out by the fact that the villages on all sides of the towns of Panaji, Margao, Vasco, Ponde and Mapusa have on an average, registered 50% rise in population in the last one decade alone. This peculiar happening of the last one decade has not only adversely affected the land main ratios both in towns and in the country-side of this territory, but has also put several strains and stresses on the existing transport system.

Aesthetics and Cultural aspects

The character of our towns and country side is unique, both with respect to individual buildings of architectural merit such as, can be found in Loutolim, Raia, etc. as well as certain areas such as Old Goa, Tambi Surla etc. or group of buildings, within settlement areas.

There are areas sufficiently compact which have also retained a distinct character and therefore justifies for strategies such as Preservation and/or Conservation.

The basic need of conservation is to create a sense of continuity between the past and the present. It is essential to have a "CHANGE" as the very essence of the living style has changed to a great extent. Conservation therefore has to be regarded as an important framework in the planning process. What is to be achieved is a "SYNTHESIS" of the new that can merge and co-exist with the old. In order to achieve this, it is essential to formulate policies and programmes for different areas depending upon their individual character.

The following parameters could find place in the conservation/preservation policy :

- (i) Development strategies designation of roads and right of ways.
- (ii) Height control of buildings.
- (iii) Aesthetic control.
- (iv) Policy towards maintaining of such huge mansions of Historic and Architectural importance.

The Government has constituted a committee to make recommendations regarding the preservation of buildings and other sites, localities and places of aesthetics, historical or environmental importance. This committee has already prepared a draft report covering the Territory of Goa including the districts of Daman and Diu which awaits the government approval.

The above reports identifies individual buildings as well as sites with brief recommendations with regard to the conservation measures to be adopted.

Town Planning & Eco-development

Town & Country Planning Department has already prepared the Regional Plan of Daman and the same has been approved by the government. The remaining two regional plans of Goa and Diu Districts are completed and submitted to government for its approval.

The outline development plans for planning areas of Panaji, Margao and Mormugao have been prepared as per the Town and Country Planning Act 1974. The zoning plans also have been prepared for the leading towns and Panchayats of the territory.

The above all plans are prepared with a view to have balanced and planned development of Territory of

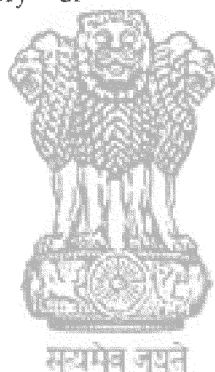
Goa, Daman & Diu. These plans as a whole, unfortunately have remained on paper due to several reasons including beaurocratic rigidity, non-existence of co-ordination among the various implementation agencies.

There is an urgent need to have a central agency under which the execution of all plan schemes are to be executed under their supervision. This agency will also monitor, evaluate, co-ordinate all the schemes.

The ecological and environmental problems created by mining activities also need remedial measures.

Besides the above mentioned projects and plans the following works are also seen by Town & Country Planning Department :

- (1) Integrated development of small and medium towns (Panaji).
- (2) Environmental Improvement Schemes.
- (3) Implementation of Eco-Development Plan & Western Ghat Development Plan.
- (4) Plans for 500m and control along the beaches of Goa through EDC/ECC.
- (5) Framing of guidelines for various types of developments.



ANNEXURE
MIGRATION TRENDS IN GOA, DAMAN & DIU—1981

	Total Migrants	
	Males	Females
I. Last Residence	206063	280915
(Elsewhere in India)	(37.57)	(52.19)
A. Within the State of Enumeration but outside the place of Enumeration	124096	205401
(1) Elsewhere District of Enumeration	122794	204489
(2) In other District of State of Enumeration	1302	912
(2) In other District of State of Enumeration	(0.24)	(0.17)
B. States in India beyond the States of Enumeration	81967	755514
(14.95)	(14.03)	
II. Outside India.	6950	6415
(a) Countries in Asia beyond India (Incl. U. S. S. R.)	2019	1479
(0.37)	(0.27)	
(b) Countries in Europe (Excl. U. S. S. R.)	621	397
(0.11)	(0.07)	
(c) Countries in Africa	4170	4432
(0.76)	(0.82)	
(d) Countries in the America	109	86
(0.02)	(0.02)	
(e) Countries in Oceania including unclassified	31	21
(Neg.)	(Neg.)	
Total migration	213013	287330
(38.84)	(53.38)	
Total population	548450	538280
(100.00)	(100.00)	

Source: Migration tables Census of India 1981.

NOTE: Figures in brackets indicates the percentages.

CLASSIFICATION OF WORKERS IN TOWN OF GOA—1981

Sr. No.	Name of the Town	Total population	Total main workers (Col. 5,6,7, 8)	Main workers			Marginal workers	Main workers	
				Cultivators	Agricultural labourers	Household Industry, Manufacturing, Processing, servicing & Repairs V(a)			
						Others workers [III, IV, V (B) & VI to IX]			
1.	2	3	4	5	6	7	8	9	10
1. Panaji (U. A.)		77226	25969 (33.63)	980 (3.77)	794 (3.06)	440 (1.69)	23755 (91.48)	1685 (2.18)	49572 (64.19)
2. Mapusa		25998	7704 (29.63)	244 (3.17)	207 (2.69)	408 (5.29)	6845 (88.85)	271 (1.04)	18023 (69.33)
3. Calangute		9621	2809 (29.20)	401 (14.28)	124 (4.41)	77 (2.74)	2207 (78.57)	484 (5.03)	6328 (65.77)
4. Siolim		8892	2260 (25.42)	356 (15.75)	125 (5.33)	214 (9.47)	1365 (69.25)	235 (2.64)	6397 (71.94)
5. Margao (U. A.)		64858	21716 (33.48)	335 (1.54)	586 (2.70)	582 (2.68)	20213 (93.08)	1003 (1.55)	42139 (64.97)
6. Cuncolim		12706	2816 (22.16)	545 (19.35)	86 (3.05)	246 (8.74)	1939 (68.86)	265 (2.09)	9625 (75.75)
7. Mormugao		69684	23211 (33.31)	65 (0.28)	30 (0.13)	242 (1.04)	22874 (98.55)	618 (0.89)	45855 (65.80)
8. Pernem		3975	1128 (28.38)	254 (22.52)	126 (11.17)	37 (3.28)	711 (63.03)	164 (4.12)	2683 (67.50)
9. Bicholim		11233	3228 (28.74)	181 (5.61)	103 (3.19)	86 (2.66)	2858 (88.54)	290 (2.58)	7715 (68.68)
10. Ponda		15330	6066 (39.57)	62 (1.02)	57 (0.94)	40 (0.66)	5907 (97.38)	74 (0.48)	9190 (59.95)
11. Valpoi		3895	959 (24.62)	19 (1.98)	2 (0.21)	32 (3.34)	906 (94.47)	96 (2.47)	2840 (72.91)
12. Quepem		3763	953 (25.33)	63 (6.61)	44 (4.62)	43 (4.51)	803 (84.26)	131 (3.48)	2679 (71.19)
13. Curchorem (including Sanvordem)		11430	3542 (30.99)	132 (3.73)	98 (2.77)	79 (2.23)	3233 (91.27)	206 (1.80)	7682 (67.21)
14. Sanguem		5977	1625 (27.18)	243 (14.95)	52 (3.20)	35 (2.16)	1295 (79.69)	200 (3.35)	4152 (69.47)
15. Canacona		1629	485 (29.77)	87 (17.94)	4 (0.82)	13 (2.68)	381 (78.56)	8 (0.49)	1136 (69.74)

NOTE : (1) Figures in brackets under col. 4, 9, & 10 are percentage to total population (Col. 3) (2) Figures in brackets under Col. 5,6,7 & 8 are percentage to total workers (col.4) (3) Sanvordem is included in Curchorem town.

Source : Directorate of Census.

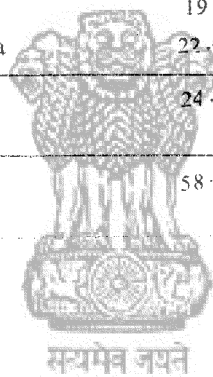
Migration categories for Goa, Daman & Diu 1971.

Last residence	Migrants	Percentage to total Population
Total migrants	3,61,175	42.11
(A) Last residence within the territory	2,43,134 (67.32%)	28.35
(i) Elsewhere in the district of enumeration	2,41,850	28.20
(ii) Other districts of territory	1,284	0.15
(B) Last residence outside the territory	1,17,755 (32.6%)	13.75
(i) Within India	1,05,269	12.27
(ii) Outside India	12,486	1.46
(C) Unclassified	284 (0.08%)	0.03

Source : Directorate of Census Operations.

PATTERN OF URBANISATION, GOA-ZONE WISE 1981

Sr. No.	Zone	Talukas	Rate of urban growth	Urban density	Average settlement wise urban population	No. of urban settlements	Percentage of urban populations
1.	Coastal Talukas	Bardez	122.54	1254	14837	3	28.92
2.		Tiswadi	30.32	1679	77226	1	58.53
3.		Salcete	59.62	1787	38782	2	40.03
4.		Mormugao	58.14	5956	69684	1	70.72
			56.46	1969	38446 (average)	7 (sub-total)	46.53
5.	Midland Talukas	Pernem	35.67	1590	3975	1	6.70
6.		Bicholim	31.38	921	11233	1	15.16
7.		Ponda	100.18	2892	15330	1	14.21
8.		Quepem	302.09	2735	5880	2	21.16
			91.72	1741	8459 (average)	5 (sub-total)	14.25
9.	Ghat Talukas	Satari	33.30	414	3895	1	9.54
10.		Sanguem	19.40	1107	5977	1	10.69
11.		Canacona	22.02	905	1629	1	4.53
			24.16	693	3833 (average)	3 (sub-total)	8.67
			58.82	1820	21519 (average)	15 (Grand total)	32.03



ANNEXURE

**TABLE
URBAN LAND USES OF IMPORTANT AREAS OF GOA**

Name of town/area	Settlement area	Other non-agricultural uses	Agriculture and Orchard area	Barren land slopes and wooded land	Water Bodies/ Salt pans/ Marshy area	Total
Panaji (M.c.l.)	415.00	1.00	252.00	50.00	38.00	756.00
Panaji Planning Area	1556.40	213.18	4644.97	1253.44	294.60	7962.59
Margao Planning Area	1325.00	426.00	1235.00	752.00	62.00	3800.00
Mormugao Planning Area	900.00	1044.00	1790.00	3728.81	367.19	7830.00

SUPPLEMENTARY NOTE ON GENERAL PERCEPTION AND PROSPECT OF URBANISATION IN GOA

During the deliberations of the National Commission of Urbanisation in Goa on 17-6-86, in connection with the Note on General perception and Prospect of Urbanisation in Goa submitted by T.C.P.D., two specific issues emerged. The commission desired to know.

1. Whether the State Government has anticipated the problem envisaged by the massive urbanisation that is taking place in the Territory as well as whether the State Govt. has made any provisions for accommodating this massive urbanisation.
2. Where and how the additional area for the projected Urban population is going to be distributed and the strategy for its distribution.

Goa Region is one of the fast urbanising zone in the Western Zone of the country. 1981 census has shown almost 1/3 of the total population is classified as urban population and when it is compared to 1960 (at the time of liberation) the growth of urban population is enormous. The modernisation of Mormugao Port Trust, establishment of Defence Industries, dispersal of industries coupled with sudden spurt in overall economic activities, etc. has led to accelerated tempo of urbanisation. This induced growth is likely to continue at least for another two decades until it is stabilised by the turn of this century.

Here in Goa the urbanisation is not concentrated in one or two towns unlike the character displayed by the metropolitan towns in the other parts of the country.

Barring the Western Ghat region where the urbanisation is not at all encouraged the distribution of urban centres is more or less balanced though there is a concentration of urban population in the four coastal talukas. The strategy adopted for urbanisation as recommended in the statutory Regional Plan for Goa is to restore and strengthen this natural balance in urbanisation which is peculiar to this territory. This would be made possible by adopting an approach of "decentralised concentration" through the development of a hierarchy of settlements. This will

be made possible by proper rearticulation for economic activities especially industrial areas in the interior talukas. The details of the proposed strategy regarding the growth centre development is already reflected in pg. 2 of our note already submitted during the visit of the commission in June 1986.

The additional load of projected urban population will amount to 3,69,215 out of which 2,41,000 will be accommodated in the existing 15 towns while the remaining 1,27,000 will be accounted for by the new census towns (about 10 in number) that are supposed to emerge by 1991 and 2001 A.D. The details of the distribution of the existing and projected urban centres are given in the enclosed tables.

It is further pointed out that the additional load of projected total population of the district by 2001 A.D. will reach a level of 5,30,000.

(2001 A.D. population 15,37,958—1981 population 10,07,749=5,30,209). Out of the said extra load, 3,69,215 will be accommodated in the urban centres and the remaining 1,61,000 will be accommodated in the existing 376 rural centres of different sizes. The total rural population will reach a level of 8,45,877 or 55% of the total population.

Aspects of Urbanisation in GOA

1. Population of Goa 1981—10,07,749
2. Urban population of Goa—
1981—3,22,785 (32%)
3. Distribution of 1981 Urban Population—
(See table no. 1)
4. Projected Urban Population of Goa 2001 A.D.
—6,92,000 (45%)
5. Additional load of Urban Population 2001 A.D.
(No. 4-2) (692000—322785)=369215
6. Distribution of projected Urban Population
(inclusive of new census town 1991 & 2001)
(see table no. 1)

TABLE I
DISTRIBUTION OF 1981 AND PROJECTED (2001 A.D.) POPULATION AND URBAN POPULATION
OF GOA DISTRICT

Sl. No.	Name of the town	1981 Population	Projected population (2001)	Increase Addition (1981-2001)
1	2	3	4	5
A. Census Town 1981				
1.	Mormugao	69684	120000	50316
2.	Margao	64858	119900	55042
3.	Panaji	77226	115900	38674
4.	Mapusa	25998	41600	15602
5.	Pernem	3975	10900	6925
6.	Bicholim	11233	19300	8067
7.	Ponda	15330	28800	13470
8.	Quepem	3763	14000	10237
9.	Valpoi	3895	6700	2805
10.	Sanguem	5977	8800	2823
11.	Chauri	1629	14000	12371
12.	Cuncolim	12706	18300	5594
13.	Calangute	9621	15100	5479
14.	Siolim	8892	12600	3708
15.	Curchorem	7998	18200	10202
Sub-Total		322785	564100	241315
B. New Centres likely to become census town by 1991 & 2001 A.D.				
1.	Shiroda		17400	17400
2.	Cacora		14900	14900
3.	Benaulim		13600	13600
4.	Sanquelim/Maulinguem/South/Carapur		13100	13100
5.	Nerul-Reis Magos		12900	12900
6.	Usgao		12400	12400
7.	Curtorim		12100	12100
8.	Mayem		10700	10700
9.	Anjuna		10600	10600
10.	Orgao-Cumbazjua		12000	10200
Sub : Total :			127900	127900
Total A+B			692000	369215

TABLE
ESTIMATES OF POPULATION PROJECTION FOR GOA DISTRICT 2025 A.D.

Year	Total Population	Rate of Growth	Urban Population	Rate of growth of Urban population
1950	547448	1.21	70931 (12.96)	
1960	589997	7.77	87329 (14.8)	23.12
1971	795120	34.77	203243 (25.6)	132.73
1981	1007749	26.74	322785 (32.0)	58.82
1991	1277398	26.76	485411 (38.0)	50.38
2001	1537985	20.40	692093 (45.0)	42.58
2011	1814822	18.00	925559 (51.0)	33.73
2021	2105194	16.00	1178909 (56.0)	27.37
2025	2231506	6.00	1338904 (60.0)	13.57

TABLE

COMPARATIVE GROWTH OF TOTAL POPULATION AND URBAN POPULATION OF GOA WITH RELATION TO INDIA AND ADJOINING STATES

Sl. No.	State	Year	Total Population	Rate of Growth	Urban population	Rate of growth Urban population
1. India		1951	36,10,88,090	13.31	6,20,98,878 (17.20)	41.31
		1961	43,92,34,771	21.64	7,81,55,315 (17.79)	25.86
		1971	54,81,59,652	24.80	10,78,24,755 (19.67)	37.96
		1981	68,51,84,692	25.00	15,76,80,171 (23.01)	46.24
2. Karnataka		1951	1,94,01,956	19.36	44,53,480 (22.95)	61.75
		1961	2,35,86,772	21.57	52,66,493 (22.33)	18.26
		1971	2,92,99,014	24.22	71,22,093 (24.31)	35.24
		1981	3,71,35,714	26.75	1,07,29,060 (28.89)	50.64
3. Maharashtra		1951	3,20,02,564	19.27	92,01,013 (28.75)	62.42
		1961	3,95,53,718	23.60	1,11,62,561 (28.22)	21.31
		1971	5,04,12,235	27.45	1,57,11,211 (31.16)	40.75
		1981	6,27,84,171	24.54	2,19,93,594 (35.03)	39.98
4. Goa District		1951	5,47,448	1.21	70,931 (12.96)	—
		1961	5,89,997	7.77	87,329 (14.8)	23.12
		1971	7,95,120	34.77	2,03,243 (25.6)	132.73
		1981	10,07,749	26.74	3,22,785 (32.0)	58.82

GUJARAT

URBANISATION IN GUJARAT A POLICY PERSPECTIVE

1. THE PROBLEM

1.1 *Dynamics of Urbanisation*

1.1.1 The pace of urbanisation has been increasing at an accelerating rate in India. The share of urban population has increased almost 6 times since the beginning of this century. This has brought about typical problems in the field of urban and regional development in India. The process of urbanisation is a part of the larger process of economic and social change. The forces underlying the growth process of urban centres also contribute to the nature and the dimension of problems the present day urban centres are facing. Urban population growth mainly comprises two components natural growth of the population and migration. A sizeable proportion of urban population in the present day developing countries consists of recent immigration. This phenomenon has resulted in unprecedented expansion of urban centres, especially the metropolitan ones. The disproportionate distribution of population in urban centres is another matter of serious concern.

1.1.2 Concentration of economic activities in large urban centres has attracted influx of job seekers from rural areas and smaller towns. Lack of opportunity and deterioration in the quality of life in smaller towns as well as response to or belief in the prevalence of better employment and earning prospects have led to immigration or influx into large cities of poor who have no capital, education or skill to get absorbed in gainful activities, thus adding to the problems of job, accommodation, money or credit for these added poor.

1.1.3 A higher rate of urbanisation is viewed as a healthy sign for the economy to grow. It brings along with it the desired social and economic development for the population and is thus an essential ingredient of economic and social advancement. It is however, experienced that uncontrolled urbanisation is accompanied by numerous socio-economic problems which tend to nullify the advantages of socio-economic advancement brought about by the process of urbanisation. Urbanisation is required to be channelised. It should bring about maximum socio-economic advancement in the most effective way without creating the socio-economic problems. Before discussing the approach and strategy for the formulation of urbanisation policy, it is worth describing in brief the various urban problems.

1.2 *Diagnosis of Problem Areas*

1.2.1 The urban population of Gujarat has nearly doubled during 1961—81. It has increased from 53.17 lakhs in 1961 to 105.56 lakhs in 1981. While Gujarat ranks 10th in India in terms of total population as per 1981 census, it is third in terms of proportion of urban population. The situation is more alarming as 58% of the total urban population of the state is concentrated in only 13 Class-I Urban Agglomerations/cities with population more than one lakh leaving the rest of the urban population scattered over 207 urban agglomerations with population less than one lakh. Even within Class-I size, 40% of the urban population of Class-I cities is concentrated in a single million-plus city viz. Ahmedabad. In other words, 24% of the total urban population of the state is concentrated in one settlement only. Against this, 69% of the total population of the state is scattered over 18114 rural settlements spread over the entire state. Nearly 43% of the urban population of the state is concentrated along Ahmedabad-Vadodra-Surat axis. Such skew proportional and spatial distribution has added the dimension of regional disparity to the problem.

1.2.2 *Shelter*

The phenomenal increase of population of large and metropolitan cities has created vast housing shortages and proliferation of slums. Population of city like Ahmedabad is increasing by about 1,00,000 persons every year. The housing activity in the city is not keeping pace with this increasing population and hence the slums and housing shortages. The dwellings are getting crowded more and more. It is noticed that there are large number of slum dwellers living in clusters of squatter settlements on Government and private land where congestion and inadequate provision of water supply, sewerage, sanitation, road, street light and other social amenities exist.

1.2.3 *Inadequacy of Traffic & Transportation*

In most of the large and metropolitan cities especially in central areas, traffic congestion is very acute. The roads and streets which were once laid out for slow traffic are now being used (without increasing their carrying capacity) by the fast motor vehicles. This has resulted in heavy congestion of traffic in these areas, which has drastically reduced the average speed of

vehicles on main roads. The number of fast moving vehicles in the city has been increasing rapidly during the last decade without corresponding increase in the length or area under roads with the result that there is congestion all over. The intracity transport service has failed to cope up with the increased travel demand. This tends to increase two wheelers which add to the congestion. The congestion reduces the operating efficiency of the mass transport further. The vicious cycle goes on aggravating the traffic situation.

1.2.4 Over-straining of Physical & Social Infrastructure

The services like water supply, sewerage, etc. designed and laid to cater the needs of a certain population at a time have got overstrained over a period of time. Replacement of these services has become impossible by physical limitation or is possible only at a prohibitive cost. Rapidly increasing population especially on the fringe of large cities without corresponding increase in services have posed the problem of contamination of source of water supply. Failure to augment capacities often result into acute problems of water scarcities. Social infrastructure is overstrained in the same manner as the physical infrastructure. Provision of schools, colleges, hospitals, cultural centres, recreational open spaces do not keep pace with the demands generated by overincreasing population. In a city like Ahmedabad, majority of the municipal schools run in double shifts. Overcrowding of pupils in the class rooms especially in the schools in rented premises is as high as 60. Similarly, public hospital facilities have not increased for a number of years beyond those provided by Civil Hospital, L. G. Hospital, Shardabai Hospital and V. S. Hospital at Ahmedabad. The amount of existing recreational open space per thousand persons is far below the planning standards. Similar is the situation in other large cities in the state.

1.2.5 Soaring Land Values

With concentration of population and economic activities in large and metropolitan cities, land values have increased tremendously. They make any scheme of urban development either in the form of a new development or improvement prohibitively costly causing severe strain on the municipal exchequer.

1.2.6 Financial Stringencies

With rapidly increasing population of large and metropolitan cities, the demands on the city government for the performance of urban functions are increasing. The ever increasing demands have incapacitated the financial resources of the civic administration with the result that situation created by the various problems described earlier continue to be more and more acute. All the municipal functions are being performed with varying degrees of inefficiency both because of resource-constraint and due to organisational and other problems. The local bodies find it difficult even to maintain their existing levels of services much less to augment them. Their problems are aggravated by the urbanisation of the peripheral areas which increases the burden on services without much additional income.

1.2.7 Environmental Degradation

High density development with non-compatible mix of uses and lack of adequate services have caused deterioration of environment. slums and squatter settlements and industrial pollution are causing further deterioration.

1.3 The Metropolitan Problem

1.3.1 The Scale

The problems like housing, transport, water supply, sewerage, etc. which may appear to be ordinary problems for a small or medium town will assume a dimension consuming majority of resources in a metropolitan city. The adverse impact of scale is further worsened due to spread and lack of desired inter-relationship between various uses.

1.3.2 Chain-Reaction Effect

People in groups of different religions, castes, income and interests are stuffed in close proximity. When the interests conflict, the disturbance is caused. An initial localised disturbance gets magnified and complicated and flares up due to its reiterative effect and puts the entire system out of gear.

1.3.3 Competition for space

The peculiarity of the metropolitan system is such that it keeps on attracting the flow of capital and migrant labour which causes competition for space and the operation of the rule of survival of the fittest throws out these new migrants to the slums and squatter settlements.

1.3.4 Environmental degradation

Adverse effects on environment are mainly due to industrial pollution, slum colonies and high density mixed development. The few open spaces are constantly getting encroached upon and the spots of historical or architectural importance get surrounded by non-compatible development.

1.3.5 State Intervention

Keeping in view the above, the state intervention has to be designed to amend the situation to the extent possible. Herculean effort is necessary to clear the backlog but it is more necessary to make a beginning at least to make sure that further deterioration is checked. All efforts will have to be integrated to ensure that the social ties and work-place relationship predominate over land-market mechanism to enable the urban system to operate better.

2. POLICY PERSPECTIVE

2.2 The Scope

Urbanisation policy has to deal with a wide spectrum of aspects concerning people and environment. Broadly, it should outline strategies which will shape the environment to meet with the aspirations of the people in a given time-span. Is it not difficult to conceive the scenario which can satisfy this requirement. It will have to consider many complex variables, some of which are subjective and nonquantifiable and few not even tangible. Even if an attempt

is made to conceive an ultimate solution, it will be an ideal extreme which will have to be curtailed down to bring it within the ambit of affordability-economy-wise, manpowerwise and timewise. If it is agreed to narrow down the scope to match the reality, the simplified version could be an attempt at macro level to define the role of state intervention and investment priority for urban sector and—at micro level to evolve an urban form which is based to the projection of past trends added with improved capability to exploit the development potential. The measures designed for this have not only to be acceptable to the people but to be affordable to the state and more particularly to the local authorities keeping in view their economic and managerial constraints.

2.2 The Objectives

2.2.1 Objectives of the urban policy will have to clearly define its approach to urban-rural dichotomy. It may be ideal to equip each settlement with desirable level of services. This may raise two fundamental questions :

- (a) What should be the desirable size of a settlement to sustain defined level of services ? This would, *inter-alia*, depend upon the available technology and the level of services for a settlement which is desirable and affordable. To provide a desirable level of services to all the settlements will certainly not be a practical proposition. We may have to be selective and aim at providing different level of services in a graded manner within reasonable distance. Small and medium towns can be equipped to act as important intermediaries in the service-delivery system.
- (b) Can we stop cities growing. In a free democratic society big cities will continue to grow larger and larger. Economic factors like economic of localisation, economy of scale, availability of specialised and higher level of services are the prime-movers of urban growth. They are also needed for advancement of technology.

2.2.2 Although the small and medium towns are deficient in terms of employment opportunities and the big cities are environmentally deficient, the need of both big cities as well as the small and medium towns is well established. We may have to devise policies which will bring about synthesis of the advantages of both. A hierarchical pattern of settlements of various sizes would preserve the environmental quality as well as generate adequate employment opportunities.

2.2.3 Small and medium towns suit our social structure, scarce resources and limited technical manpower available there. They are supposed to be less energy consuming centres compared to big cities where the longer average trip length calls for heavy expenditure on transport. This obviously, demands priority attention on improving the capabilities of small and medium towns to equip them to fight against both extremes a metropolis overpowered by urban evils on

one hand, and the vast magnitude of rural areas deprived of basic minimum services on the other. They may have to assume a balancing role which attempts to synthesize the virtues of both.

2.2.4 Few big cities, on the other side, will provide higher level of services and adequate opportunities for advancing the technology. In spite of the above, it is necessary to check excessive migration towards big cities, especially the million-plus cities. Excessive migration makes them unmanageable and consequently, the environmental quality deteriorates within such cities. Effective measures will also be necessary to discourage concentration of activities in the big cities.

2.2.5 The following two-fold policy objectives follow from the above discussions :

- (1) To check the deterioration of the living conditions in big cities and
- (2) To upgrade the level of services and infrastructure in small and medium towns to make them attractive for investment.

2.2.6 Here it may be necessary to point out that mere economic considerations will not work. The decision in this respect will have to give due weightage to the basic character and function of the town, the social fabric and the desires of the people as ultimately it is the people upon whose response the success or failure of policy measures will depend. This emphasizes the need of encouraging more and more public participation in the planning and development process.

2.3 Location Selective Approach & Investment Priority

2.3.1 Regional Dimension

Instead of introducing new programmes, it is more necessary to integrate the existing ones over carefully selected spatial frame to cause desired impact. Instead of thinly spreading the scarce resources, location specific programmes with inter-sectoral coordination will increase their productivity without increasing the cost. This requires that the programmes—in addition to being sector selective—will also have to be location selective. They could perhaps be based on identification of sectors to suit the locational needs of a selected settlement carefully dovetailed with the regional development programme. Based on the existing pattern of spatial distribution of settlements of various sizes, settlement hierarchy could be evolved and the roles may be assigned to each settlement which would suit to the development potential and regional goals.

2.3.2 Investment Priority

It should be possible to select few settlements and ascertain the quantum and pattern of investment necessary for enabling them to play the role assigned to them. Based on the relative priorities, the programmes can be framed to channelise the investment especially into the sectors which serve the basic infrastructural needs in the first instance and which are also capable of causing reiterative effect encouraging

further investment in private sector. Encouragement of private sector is necessary especially to generate adequate employment opportunities in these centres. With adequate support, small and medium towns are capable of playing important role as growth-cum-service centres and employment generating centres for the vast rural hinterland.

3. MULTI-LEVEL STRATEGY

3.1 A complete urban policy document has to be a package which comprises of strategies together with the measures and mechanism to operationalise them from macro-level to micro-level.

3.2 At the regional level (the region may be an administrative region like a state with appropriate resource-based sub-regions), it could be a strategy broadly to reduce the inter-regional imbalance. Within a region, it could be a strategy to plan and develop hierarchical settlement pattern based on functional classification and affordable standards of services at various levels. Keeping in view the energy crisis, due emphasis may be given to spatial aspects to economise the cost on transport and communication, exploitation of the resources—potential would generate returns which could be harnessed to develop the above pattern in a phased manner. The priority will go to the development of basic infrastructure capable of generating multiplier effect through the efforts in private sector. The settlements entrusted with growth-cum-service centre function assume a pivotal role in this pattern. Small and medium towns with adequate support could be entrusted to play this role.

3.3 At a metropolitan-region level, the strategy will aim at developing the growth centres/satellite towns to generate employment opportunities which will enable to balance the unidirectional movement.

3.4 At a city-regional level, it could be a strategy to tackle the core-periphery syndrome by strengthening the city-hinterland relationship through a series of mutually supportive programmes resulting in exchanges of benefits to both. The one way suction mechanism operating to the detriment of both could be effectively checked only if the larger share of benefit goes to the rural hinterland.

3.5 At inter-city level, it aims at strengthening the communication network with appropriate fast and direct linkages. Railways and roads will have to provide co-ordinated system for efficient exchange between cities.

3.6 At an intra-city level, it is a strategy of combating the deteriorating environment with special emphasis on improving the conditions of the urban poor. As a supplementary measure, adjustment of land use and density patterns will tend to relieve the pressure on congested areas. This will also enable to optimise the use of available services.

4. PLANNING TOOLS

4.1 Land has been one of the instruments to convert the policy into reality. Appropriate use of land at regional, city, area and plot level will provide a

framework for organising the desired activities. In this connection, the tools like regional planning for administrative or resource-based regions and metropolitan regions, development plans for the cities and towns, detailed area planning schemes for various parts of the city and development control regulations for individual plots will have to be organised to achieve the desired results.

4.2 A special technique of detailed areas planning viz., Town Planning Scheme is available in Gujarat Town & Urban Development Act, 1976. This is a unique tool both technically and legally sound for detailed area and plot level planning and development coupled with a rational technique of taxing the beneficiary in proportion to the unearned benefit accruing to him. This tool has been advantageously used in planned development of the areas outlying the inner core of Ahmedabad city, Anand town and other cities of Gujarat.

5. OPERATIONAL MECHANISM

5.1 Existing Structure

In addition to state level department of Town Planning & Valuation, Directorate of Municipality and local authorities, the institutional framework to take care of various aspects of urban development include :—

- (a) Urban/Area Development Authorities for Ahmedabad, Vadodara, Surat, Rajkot, Jamnagar, Bhavnagar and Hajira.
- (b) Gujarat Municipal Finance Board.
- (c) Gujarat Slum Clearance Board.
- (d) Gujarat Water Supply & Sewerage Board.
- (e) Gujarat Housing Board.
- (f) Gujarat State Road Transport Corporation.
- (g) Gujarat Industrial Development Corporation &
- (h) Gujarat Co-operative Housing Finance Society Ltd.

5.2 Urban Management

5.2.1 There are multiplicity of institutions playing different roles sometimes overlapping or competing with each other in the field of urban development. At metropolitan level, there is a need of an apex organisation like metropolitan government with more powers than municipal corporation and urban development authority to manage and co-ordinate the activities of various institutions in the framework of the development plan.

5.2.2 One of the main hurdles for development of small and medium towns is the lack of adequately trained technical and managerial manpower at the level of the local authority. A state level organisation for urban development may be constituted with appropriate circles to undertake responsibility of planning, financing and organising the implementation of the development programme for the small and medium towns. It may undertake bulk acquisition and work as land bank to the small and medium towns. It may

act as an agency to bring financial aid from various sources. It may provide consultancy service in the field of technical and legal matters, administration and financial management. This organisation will help the local authority to exploit the non-tax revenue like land and create funds which can be recycled in other development works through better financial management.

5.2.3 The role of Gujarat Industrial Development Corporation (GIDC) will have to be complementary to the State Urban Policy, i.e. GIDC will have to consciously attempt to discourage investment in big cities and encourage it in the small and medium towns.

5.2.4 The role of Gujarat Housing Board and Gujarat Slum Clearance Board also need re-examination. In view of the capability of the private sector to provide housing stock, the public sector organisation may have to concentrate in those sectors only which are not normally served by the private sector. Sites and services and slum improvement are the priority needs of the urban areas. Both the above organisations should join hands in fulfilling this need as far as possible.

6. FINANCE

6.1 Finance has been a major hurdle for any urban development programme. Tax revenue has obvious limitations due to various reasons some inbuilt with the democratic set up of the local authority and also partly due to the economic condition of majority of the tax-payers. This makes it inevitable to exploit the sources of non-tax revenue. Land has been one such unexploited resource. The local authority, with the powers of controlling the intensity and type of use of land and planning and implementing the infrastructure, has the capability to exploit this resource. Appropriate and timely use of the benefits of the locational aspects coupled with zonal and development regulations will not only reduce the financial burden of the local authority but also provide planned development right location and at right time.

6.2 The local authorities are entrusted with the responsibility of providing services in the newly developing areas. But they neither benefit directly from the resultant development nor are capable of tapping the beneficiaries. The need of an appropriate legal framework for this purpose can hardly be overemphasized. In Gujarat, such a tool—in form of Town Planning Scheme—is available under The Gujarat Town Planning & Urban Development Act 1976. The scheme provides wide scope of application and should be

employed more extensively as an effective tool for raising finance for planned development.

6.3 Adequate fiscal support may be provided to the local authority by diverting some tax resources to them e.g. vehicle registration fee, sales tax, petrol surcharge, professional tax, non-agricultural assessment, conversion tax, entertainment tax etc., which should justifiably go to the local authority as it the result of their investment which has made possible to levy such taxes.

7. STATE INTERVENTION—LOCATIONAL ASPECTS

7.1 A clear-cut and effective policy will have to be devised for providing encouragement to the development of small and medium towns and prohibiting undue concentration of activities especially of employment generating nature in big cities. Before permitting any activity or major development in a big city, it should be thoroughly examined whether it is inevitable to locate such activity in the big city, if so, whether the proposal is comprehensive enough to take care of the resulting effects of such development.

7.2 The decision on location of industry deserves special mention. Industrial development is one of the important prime-movers of urban development. Industrial location policy will have to go hand-in-hand with the urban development policy. Indiscriminately increasing industrial development in big cities has brought with it the problems of slums and environmental degradation. This demands additional funds for maintaining the desired environmental standards. Have local authorities adequate resources to fight against the threat of pollution? It is not desirable to stop industrial development, it should be possible to tax it adequately for locating it in the city and continuing to stay in the city. In spite of the high cost of land and overheads, city has remained a favourite choice for private entrepreneurs. The local authority will have to devise the measures to tap this outweighing advantage of locating and continuing the industries in the city so that its capability to fight against environmental degradation is increased to some extent.

7.3 Big cities have also been the favourite choice of locating major activities in public sector. Can we justify such location in the present context? Should every major activity be necessarily located in big city? Such locations in big cities will aggravate the problems there and will strengthen the suction mechanism. On the other hand, such location in the small and medium towns will attempt to balance the disparity in development between cities and towns.

7.4 The location of wholesale goods activity will have to be critically reviewed. These goods transport trips which are not directly linked with the consumption of the urban area will have to be diverted out of the city. Similar critical review of passenger movement will also have to be made especially in terms of locating inter-city bus terminus. The role of inter-city passenger service and inter-city passenger service will have to be distinctly defined and the services provided should not compete with each other but should complement each other. A planned integration of the inter-city and intra-city transport services will increase the efficiency of both and will reduce the traffic problem in general.

7.5 Within city also, the location of existing offices in public and semi-public sector will also have to be reviewed e.g. the location of collector office near Ghee-Kanta in Ahmedabad could possibly be the best location when it was established in past. But, is it the proper location for such use today? Periodical review of important traffic generating locations will have to be made to examine the justification of continuing them at that location.

8. CHANGING CONCEPTS

8.1 *Market Mechanism Dictates*

In big cities, the land value in the Central Business District area is sky-rocketing. This high value drives out the less profitable uses to give way to high density development of more profitable uses. Residential buildings in busy commercial streets get converted into multi-storeyed commercial complex, and nearby buildings which do not have direct access on the main road also get converted to allied uses like a warehouse. This causes the traffic problem as increasing traffic soon overstrains the existing transport links. But, it becomes a matter of more serious concern when the sites already used for public purposes surrender to market forces. This distorts the balanced distribution of land uses and the result is either the area suffers from lack of such public utility places or the local authority has to provide them at exorbitant cost. The worst sufferers are the public uses like medical and educational amenities, off-street parking lots, gardens and playgrounds. Planning tools like development plan and town planning scheme will have to be employed to designate and if possible to reserve and acquire adequate spaces at proper locations for such uses.

8.2 *Shall we break the tradition?*

High density residential development provides congenial atmosphere for the epidemic and the city dis-

turbances to flare up. It also obstructs the efforts to control them effectively. Recent epidemic of jaundice and disturbances in the walled city of Ahmedabad have proved this. The tradition of high density development is perpetuated in already congested old gamtal areas by allowing higher ground coverage and higher Floor Spaces Index (F.S.I.) in the Development Control Regulations (D.C.R.). The pressure of development gets intensified as the old buildings get demolished to be replaced by new ones with high density traffic generating uses. This ultimately worsens the situation beyond control. The traditional concept of "Gamtal means fully built-up" has to be a matter of past. The sooner it is, the better it will be.

8.3 *Slums and Encroachment by Vendors—Inevitable realities*

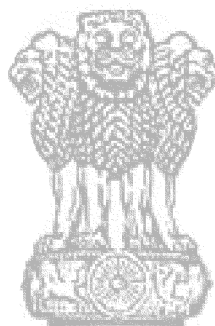
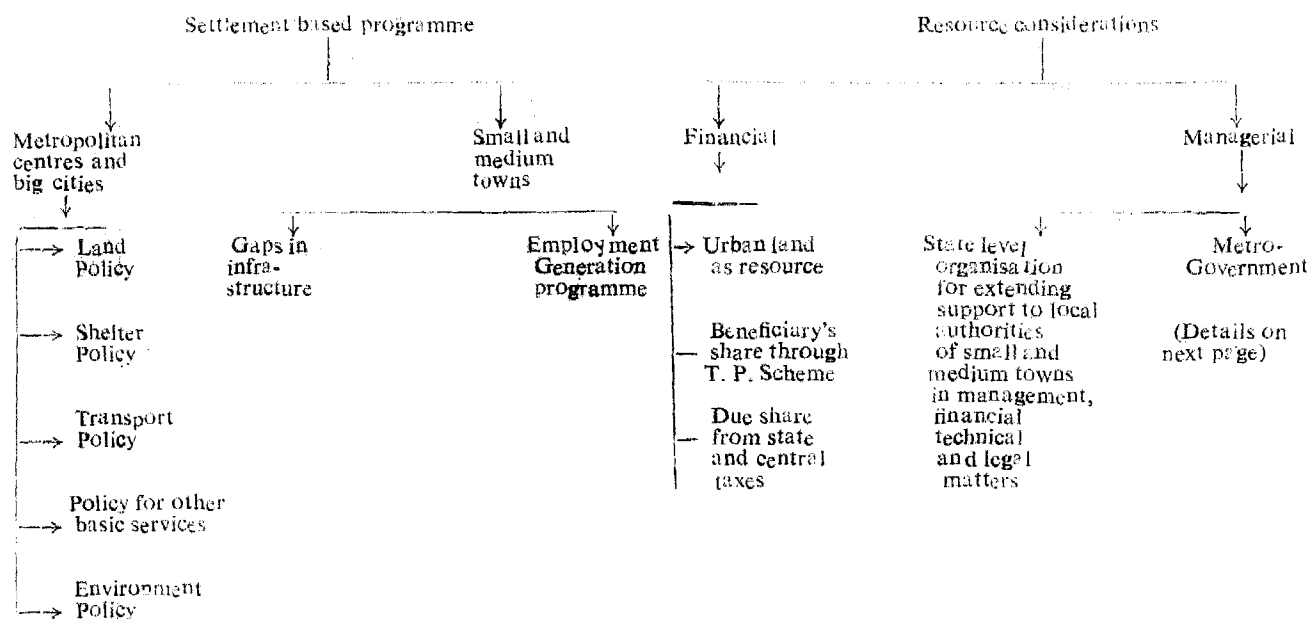
It is popularly said that 'what cannot be cured must be endured'. In planning parlance, it may be put as, "What cannot be cured must be provided for". Slums are the reality of our economic situation. Similar is the case of encroachment on footpath by vendors. The reality has to be accepted. To some extent, these are the consequences of the failure of planning. If industries were to grow on massive scale without corresponding increase in right type of housing stock at right place and at right time, nothing less than slums and squatter settlements would result as an inevitable response. As a restrictive measure, a reasonable limit will have to be imposed on adding new industries in big cities. The development plans will have to be extremely conservative and cautious in allowing additional area under industrial zone. As a positive measure, development plan should reserve adequate spaces at appropriate locations for EWS housing. The building regulations must provide for practical low-cost standards for development of hut-type dwellings. Similarly, the need of the hawkers (Lari-Galla) has to be recognised and suitable open spaces for them will have to be provided. The regulations also must provide for small cabin-shops (Galla). Any plan for a commercial or office complex, a transport terminus, a community hall or any other major activity generating centre must provide adequate space for such uses in the organised manner. The situation around State Transport Bus terminus at Gitamandir road and multistoreyed office complex near Lal Darwaja, Ahmedabad clearly prove the need of organised provision for this purpose.

9. OVERALL STRATEGY—AN OUTLINE IN BRIEF

9.1 The annexed chart briefly outlines the Overall Urban Development Strategy.

OUTLINE IN BRIEF

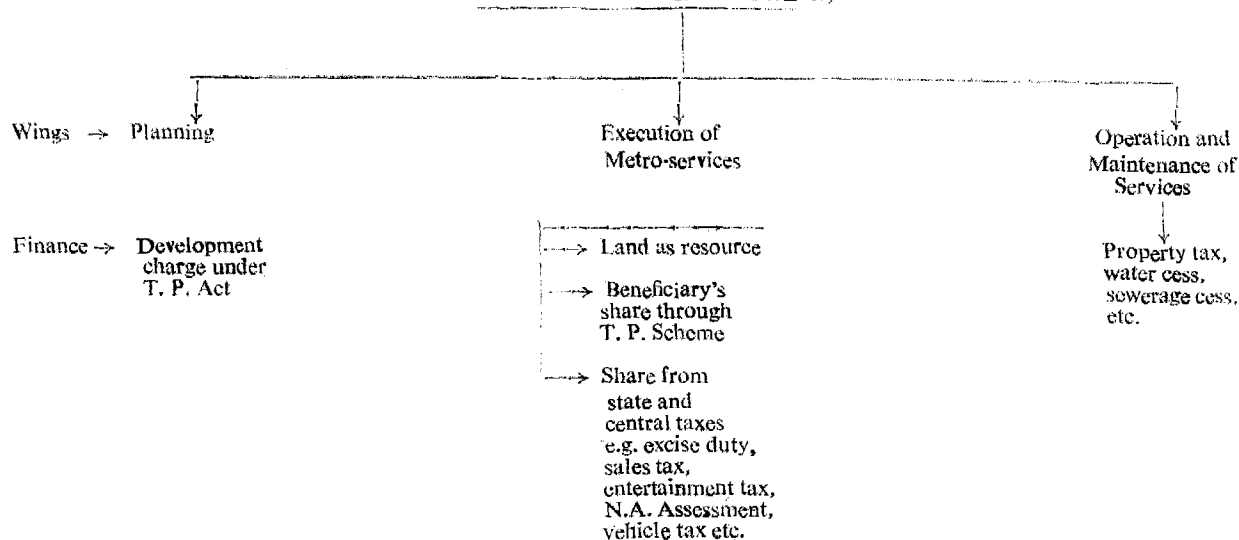
OVERALL URBAN DEVELOPMENT STRATEGY



सत्यमेव जयते

METRO—GOVERNMENT

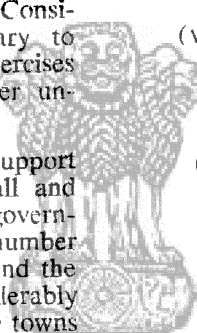
(WITH POWERS OF MUN. CORPORATION, URBAN DEVELOPMENT AUTHORITY AND FEW STATE GOVERNMENT POWERS)



10. TASK AHEAD

10.1 Much task is still ahead. The urban population of Gujarat has doubled during the last two decades. With increasing rate of urbanisation, it will again double in the next two decades. The proportion of urban population which constitutes 31% of the state population in 1981 is likely to increase to about 36% by 2001. This means that the urban population of 106 lacs in 1981 will be about 200 lacs in 2001. In other words, 50% of the increase in the total population of Gujarat during next two decades will be in the urban areas only. This will cause additional burden on the civic authorities.

10.2 Intensive and concerted efforts will be necessary by the state government and various authorities in the field of urban development to meet with this challenge. It will obviously need sizeable financial support. Few areas which needs immediate consideration in this regard include :—

- 
- (i) As a part of South Gujarat Regional Planning Exercise, the sub-regions have been primarily identified and appropriate policy measures are being worked out for their development. The sub-regions include eastern be of an developed region. Considerable financial support is necessary to encourage its development. Similar exercises will have to be carried out for other undeveloped regions of the state.
- (ii) More liberal and extensive financial support is necessary for development of small and medium towns. The present central government scheme is limited in terms of number of towns, the quantum of assistance and the components. It deserves to be considerably liberalised and extended to cover more towns to achieve the desired objectives.
- (iii) Employment generating activities will have to be encouraged in the small and medium towns and in the growth centres around big cities. This will help in retarding the usual unidirectional flow of migrants towards big cities and will help planned decentralization.
- (iv) The industrial incentive policy will also have to provide sufficient encouragement to industrial development in small and medium towns. Considerable investment will be necessary to provide the urban services commensurate with the industrial development. Increased taxation on industrial units in big cities will provide some cross-subsidy for this.
- (v) Considerable investment will be necessary to ameliorate the conditions of the urban poor through comprehensive programmes which will include provision of physical and socio-economic infrastructure specifically oriented towards their need.
- (vi) In order to continue the programme of development of sites and services and slum upgradation on long term basis, these schemes will have to generate self-sustaining momentum through cross-subsidising the profits due to locational advantages. However, initial financial support will be necessary to encourage the local authorities to undertake like development of site & services & slum schemes is essential.
- (vii) Inter-city and intra-city transportation system will have to be adequately strengthened to increase their capability to meet with the demand.
- (viii) Decentralization through shifting the major traffic generating activities from the city centre to outlying areas will need considerable initial financial support.
- (ix) Urban redevelopment and urban renewal programmes will have to be undertaken for revitalising the heavily congested central areas of historical, archaeological and architectural importance.
- (x) Urban forestry will have to be encouraged to play its due role in upgrading the environment of big cities.
- (xi) Computerised urban and regional information system will be necessary to assess the gap in level of services to prepare appropriate plans to monitor the progress of the development programme. The information system together with periodical aerial photography will be necessary to capture upto date and precise information about the three-dimensional features of the development to enable the authorities to monitor the change of land use more effectively.

ANNEXURES

A. INFORMATION ON DISCUSSION CONTENTS

State Government Departments & Other Authorities

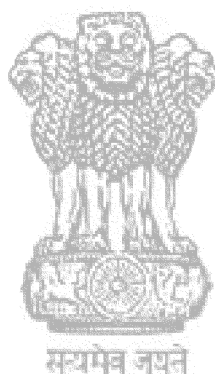
1. Energy
2. Forest
3. Employment & Manpower
4. Health
5. Urban Housing
6. Industry
7. Social Welfare
8. Transport
9. Tourism
10. Roads & Buildings
11. Urban Development

B. INSTITUTIONS & INDIVIDUALS

1. Self Employed Women's Association (SEWA).
2. Mrs. Anjana Desai, Deptt. of Geography, Gujarat University.
3. Dr. S. S. Mehta, Gandhi Labour Institute.
4. Dr. B. B. Patel, Gandhi Labour Institute.
5. Indian Institute of Architects, Gujarat Chapter.
6. Gujarat Institute of Housing & Estate Developers.
7. Prof. R. N. Shelat, S. V. Reg. College of Engg. & Technology.

C. URBAN PROFILE

D. URBANISATION POLICY FOR GUJARAT-DRAFT POLICY PAPER



HARYANA

URBANISATION IN HARYANA—PLAN POLICY, DEVELOPMENT AND PROBLEMS

1. BACKGROUND & STATUS OF URBANISATION IN HARYANA

Haryana State with an area of 44212 sq. kilo mtrs. is one of the twenty two States of India, which was carved out of the State of Punjab on Nov. 1st, 1966. According to the 1981 census it had a population of 1,29,22,618 persons reflecting an overall density of 292 persons per sq. kilometer. The population is unevenly distributed in the State on account of variations in relief, fertility of soils, climate, socio-cultural, set-up availability of irrigation facilities industrialisation and development activities. This aspect is clearly indicated by the following table of densities in the twelve Districts of Haryana as per 1981 census :

TABLE- I

District	Area in sq. kms.	Population 1981	Density persons per sq. kms.
Hissar	6,315	14,96,534	237
Sirsa	4,276	7,07,068	165
Bhiwani	5,099	9,20,052	180
Gurgaon	2,716	8,49,598	313
Faridabad	2,150	10,00,859	466
Jind	3,306	9,38,074	284

District	Area in sq. kms.	Population 1981	Density persons per sq. kms.
Mahendragarh	3,010	9,59,400	319
Ambala	3,832	14,09,463	368
Karnal	3,721	13,22,826	356
Kurukshetra	3,740	11,30,026	302
Rohtak	3,841	13,41,953	349
Sonepat	2,206	4,46,765	384
Total	44,212	1,29,22,618	292

Thus the density varies from maximum of 466 persons/sq. kms. in Faridabad District to minimum of 165 persons/sq. kms. in Sirsa.

Haryana being predominantly an Agricultural State dominated by rural economic order, according to 1981 census, had 77% of its population living in its 6,727 villages of sizes varying between one hundred to ten thousand population. The rest of its 23% population of i.e. 28,27,387 lives in its 81 towns. The level of urbanisation varies considerably from District to District. The table-II below indicates the District-wise percentages of urban population to the total population which is lowest (11.08%) in Jind and highest (40.60%) in Faridabad.

TABLE-II

State/District	Total	Rural	Urban	%age of urban population to total population	Decennial rate of growth
Ambala	14,00,133	9,36,755	4,63,378	33.10	27.43
Kurukshetra	11,23,545	9,37,527	1,06,018	16.56	30.21
Karnal	13,17,823	9,71,653	3,46,170	26.27	33.32
Jind	9,35,292	8,06,576	1,28,716	11.08	22.33
Sonepat	8,43,968	6,91,933	1,52,035	18.01	22.55
Rohtak	13,26,343	10,60,388	2,65,955	20.05	20.74
Faridabad	9,96,814	5,92,111	4,04,703	40.60	39.31
Gurgaon	8,40,817	6,71,655	1,69,162	20.12	29.04
Mahendragarh	94,97,745	8,24,371	1,25,375	13.20	23.81
Bhiwani	9,16,744	7,69,389	1,47,355	16.07	30.36
Hissar	14,91,490	12,02,935	2,88,555	19.35	28.48
Sirsa	7,08,188	5,63,760	1,44,408	20.39	32.72
Haryana	1,28,50,902	1,00,29,073	20,218,29	21.96	28.04

The decennial growth of urban population recorded during 1961-71 decade was 35.58% where as during 1971-81 it was 59.16%. This growth rate is higher than the average growth rate of urban population in the Country as a whole. The decennial rate of growth has also been even over the various district as indicated in the foregoing table (ii) Where in Faridabad District registered the highest growth rate of 39.31% while Rohtak the lowest of 20.74%.

The number of towns in Haryana has increased from 65 in 1971 to 81 in 1981. The following table-III gives a comparative study the growth of different categories of towns and the population therein :

TABLE - III

Population size class	Net increase or decrease in Urban population during 1961-71 in (lakhs)	%age distribution of not increase in total urban population during 1971-81.
100,00 and above	+13.7	+85.8%
50,000 to 99,999	-3.9	-130.2%
20,000 to 49,999	-0.44	-10.6%
10,000 to 19,999	+1.06	+32.3%
5,000 to 9,000	-0.09	-129.9%

It is clear from the above table that highest concentration & growth of population is taking place in the class-I cities and their number has also increased considerably, where as all other categories of cities registering a much lower rate of urban growth which is even below the State average. In fact the growth rate of urban population as indicated by the table-III shows that only in class-I and class-IV towns there has been an increase in population where as in other cases the overall population has declined.

A functional classification of urban centres reveals that most of the towns/cities in Haryana are multi-functional acting as service centres to the rural areas which they serve. It has been found that 52 towns are multifunctional, 15 towns are byfunctional, one is a service town, one is a transport town and three are industrial towns. Majority of the towns are service, trade and commerce centres due to the agricultural economy of the State. Sudden spurt of population increase is being experienced by the towns generally all over the State and particularly in the areas falling in the Haryana region of the National Capital Region, specially Faridabad and Gurgaon located on the outskirts of Delhi. This population spurt has caught the town rather unaware causing intense pressure on entire infrastructure which may be directly or indirectly related to these centres. The recent growth trend is not an end in itself but a continuous process with a multiplier effect.

2. THE STRATEGY, PROCESS AND PLAN FOR URBAN DEVELOPMENT IN HARYANA

The Govt. of Haryana has undertaken the gigantic task of socio-economic development and of improving the quality of life and living conditions of the people,

both in urban and rural sectors right from its birth in Nov., 1966. As a corollary to the overall progress of the State, the trend of urbanisation has been very fast. The registered growth rate of urban population during the last decade is by no means an end of the process, rather indication of the beginning of a difficult situation ahead. The limitation of the sustenance capacity of agricultural land inter-alia limits the amount of population which can in future be absorbed in the rural areas. It has been estimated that only 97 lac people can be tied down to rural areas by 1991 and the rest will have to be accommodated in the urban areas. Thus, on the basis of the above, as well as the projected growth trends, the urban population is anticipated as 54.7 lacs in 1991 and 112 lacs by 2001.

The towns would thus need a very high priority for provision of all types of physical, social, economic and cultural infrastructure to meet his future challenge of urbanisation which seems inevitable.

The current urban development in Haryana is handled by various agencies at the State level and at the local level.

Some of these agencies are directly involved in urban development, where as the others are indirectly involved either as executing agencies of the former or themselves contributing to the urban development through their own programmes independent of these authorities.

The authorities directly involved in Urban development are;

Local Self Govt. Deptt. of the State

Under this department of the Govt. functions the Directorate of Urban Local Bodies having the following agencies at the local level in the urban areas :

(a) Municipalities

Each town has a Municipal Committee constituted under the Haryana Municipal Act of 1973. These municipalities are categorised as class-A for towns of population of above one lakh, class-B between 50,000 and one lakh and class-C below 50,000.

(b) Faridabad Complex Administration

To look-after the Faridabad Urban agglomeration, the Complex Administration was constituted under the F.C.A. Act of 1972.

(c) Improvement Trust

Some of the towns had Improvement Trust for undertaking local development schemes constituted under the Punjab Town Improvement Act, 1922. Presently the Improvement Trust have been dissolved for the time being but the powers of these dissolved trust vest with the Administrators of the Municipal Committees, who complete the continuing schemes and can also, if necessary, get schemes sanctioned with the concurrence of the Govt.

- (d) The Kurukshetra Development Board found under the K.D.B. Act of 1967 to develop the centres of religious importance within the Kurukshetra region.

2. THE DEPARTMENT OF TOWN & COUNTRY PLANNING

(a) Directorate of Town & Country Planning

It has offices in all the Districts in Haryana. This department implements the Punjab Scheduled Roads and Controlled Areas Act, 1963 and the Urban Areas Act, 1975 for planning and regulation of controlled areas and to control the carving of unauthorised colonies within urban areas. In addition this department provides necessary technical advice to all agencies involved in Urban Development in one form or the other.

(b) Department of Urban Estates

Its primary job is to undertake land acquisition for Urban Estates under the Land Acquisition Act of 1894.

(c) Haryana Urban Development Authority

This authority constituted under the HUDA Act 1977 is primarily responsible for development of urban land through provision of infrastructure, management, sales and allied functions for urban estates.

3. DEPARTMENT OF HOUSING

The most important function of this department and Haryana Housing Board constituted under the Haryana Housing Board Act 1971 is to provide housing on a hire-purchase basis in urban and rural areas of Haryana.

The agencies which are indirectly involved in the urban development are as under :—

(i) State P.W.D. (Public Health Deptt.)

This is the premier agency to provide sewerage, water supply and storm water facilities in the towns, acting on behalf of the Municipalities mostly undertaking the development as deposit works. The also maintain these services till such time the municipalities are in a position to take them over. Pollution Control Board which is a state level board plays an important role in the improvement of urban environment by controlling pollution and was constituted under water pollution control Act of 1972.

(ii) P.W.D. B&R Department

Though most of the internal roads in the towns are the responsibility of the municipalities, however the major roads passing through the towns and forming the transport arteries are maintained by the P.W.D. B&R. It also being the Govt. agency for construction, undertakes the construction of all Govt. buildings in the urban

areas and also regulates and advises the Municipal Committees in respect of their development works wherever the cost increases beyond a certain limit.

(iii) Haryana State Agricultural Marketing Board

Though the basic purpose of this Board is to provide, develop, construct and manage market centres (Mandies) all over Haryana, but since a large number of these centres have been developed adjacent or within the towns, it acts a large source of economic infrastructure to the towns. This is specially important in view of the predominance of agricultural economy and the service and market functions which are being performed by various towns.

(iv) Haryana State Industrial Development Corporation

Though the primary job of this corporation is to look-after development of industries, however it is developing a number of industrial estates very close to the cities which provide an employment and economic base to the towns.

(v) Health and Education Deptt.

These departments provide the urban areas with the necessary social infrastructure like health centres, hospitals, dispensaries, schools, colleges etc.

In addition to the above a number of other organisations like the Red Cross, Child Welfare Council etc. are greatly contributing towards the facilities in the Urban Areas.

PROBLEMS AND SUGGESTIONS

1. Towns in Isolation

The existing situation in Haryana indicates a great variations in levels of urban development in different regions, parts and areas of the State. As a paradox the statistics indicate that larger cities (Class-I) are developing at the cost of smaller towns of various categories as well as that of the rural hinter-land. Even among themselves the class-I towns has shown a very great variations in the growth rate in the past decade. Where as Faridabad and Gurgaon have experienced very high growth rate of 213% and 76.5% respectively, towns like Ambala Cantt. and Ambala city have shown much lower growth rate of 18.25% and 24.95% respectively. Thus some of the towns exhibit a great degree of hypertrophy compared to their surrounding regions. The reasons for this situation are multifold. One of the most important one being the development of town being undertaken in isolation of its regional contexts and no consideration for the overall balanced development of the State as a whole, and its various regions and sub regions according to their specific requirements. This requires a more comprehensive approach towards urban and regional development.

The State should firstly be divided into planning regions based on various physical, Geographical, Socio-economic Characteristics or indicators. The concept of developing a settlement Structure Plan for areas or sub regions should be taken up in a more regular manner. The rural infrastructure should be developed so that the designed rural population does not migrate to urban areas and the integrated rural development programme is really designed to provide the necessary economic and social needs to stabilise the rural population. These are only possible if adequate legislation is enacted to cover the aspect of regional planning and structures plans and also effective machinery is created both at the State and Regional levels to plan, implement and monitor these plans and programmes.

2. Urban Administration, Managements, Legislation and Co-ordination

The process of urban development has attained gigantic proportions over the last decade in Haryana and the projection do not indicate any appreciable slowing down in this trend. In the past when the growth rate was slow the existing laws and the authorities mentioned in the foregoing paragraphs were good enough to look after the organic urban growth; but with the rapid urbanisation it is not possible to keep pace with the infrastructure requirement on the one hand and population growth on the other, in urban areas. The result is a serious shortfall of facilities and unplanned and haphazard growth. On the other hand what ever facilities are added to the town by different agencies they are provided in an un-co-ordinated and un-planned manner. The existing legislations have a limited scope within the jurisdiction of each authority. The most intriguing fact being that the local authority (the municipality) which is mainly responsible for the development within the municipal limits has no power to prepare an overall development plans, where as the Deptt. of Town & Country Planning can only prepare development plans for controlled areas declared mostly out side the municipal limits. The later has only an advisory role to play within the municipal limits and the advice so tendered is not binding on the municipalities. This is specially true since most of the municipalities are not prepared to be bound by plan provisions, rather they would like to maintain their discretions.

It is, therefore, necessary that a comprehensive legislation should be enacted which should superwise the overall development of the city and also provide for monitoring and co-ordinating all development activities of various departments in the urban areas, both at the State level as well as at the District level.

3. Fiscal aspects of Urban Development

Urban Development has always been granted a very low priority as far as Plan and Non Plan budget allocations are concerned. It has also been considered as a prerogative of the local body to look-after the urban development and what ever little amount is put into the budget on this account is syphoned off in that direction. On their own end, most of the local bodies are practically bankrupt and most of their

own resources are spent on recurring expenditures i.e. pay of staff and establishment expenditure and a very small percentage is used on development works. The result is a large gap between the infrastructure provision and the growth of urban population. This further increases the tendency of the local bodies to shirk their responsibility by trying to get their own works passed on to the other State Departments. On the other hand in Haryana the premier agency for Urban Development i.e. H.U.D.A., is nothing more than a State Govt. Colonizer just using/revolving public money with no contribution from the Govt. side and thus selling, land at a price which is becoming un-affordable to the average citizen everyday.

The other side of the picture is that major contribution to the national as well as State Ex-cheque in the form of revenue e.g. income-tax, excise duty, wealth tax, sales tax etc. are recovered from the urban sectors. It should therefore be necessary that more funds should be provided out of central/state corporate tax recovery for urban development and the local bodies should be financially strengthened to enable them to provide for development works. The financial institutions are not yet involved in real urban development and what ever little they contribute in the form of financing large industrial and commercial complexes is of little benefit of the common urban dweller. They should be involved in an intense way specially in housing mortgages for low and middle income groups.

4. Land Acquisition and allied problems

The most important components of all urban development is land. It is on land only that all urban expansion, growth and redevelopment programme have to take a practical shape. On one hand as most of the land within or adjacent to urban areas has a very high potential use values and being privately owned, the individual interests vesting in the land, stand in the way of its acquisition by trying all constitutional and extra constitutional measures; On the other hand the recent amendment in the Land Acquisition Act have made the acquisition process not only difficult but also very expensive. Though the act itself now provides adequate safety and protection to the land owner, but has made the land very expensive and beyond the reach of the common man.

In this situation a few of the suggestions made would be : firstly to provide adequate safe guard against the stalling of acquisition process itself. Secondly order to reduce the public (land owners) resistance to land acquisition, their active co-operation/participation in the process of the urban development should be obtained by sharing with them a part of benefit, of the development by leaving out certain pockets for the individuals to sell in the developed areas, Thirdly by consolidating the entire urban land and then distributing profits among the owners on a proportionate basis. This could also involve re-adjustment of the owners land. The actual methodology of implementing some of these suggestions needs to be worked out in detail.

5. Housing

Dwelling is by far the most important aspect of urban life and structure. It outweighs all other uses and activities in urban areas. Within the limited resources that we have at our disposal, public sector rental housing of the European type is not possible in India. A large proportion of the housing has to come from the private sector and we have to try to involve the latter by all possible means. This is only possible by providing incentives to build houses in the form of tax rebates, making building material available, easily and providing all type of infra-structures including land required for housing developments. A major portion of the urban population lives in rented houses. It was in this context that urban rent restriction law was enacted to protect the rights of the tenants. However the owner has no rights at all and virtually has to be at the mercy of the tenant. The result is that either the owners are not interested in letting out the houses or they use some illegal contract, trying to circumvent the provision of the rent control Act. This has also effected the growth of housing stock in the private sector to a large extent. It would therefore be necessary that the rent act is amended to make it more reasonable and provide incentive for constructing housing specially for lower and middle income group. Another large section of urban population denied of proper housing facilities is the poor and economically weaker, service and labour population. For the industrial labour it should be mandatory for the industrialists to provide housing as a part of their labour welfare programmes. For the others who are mostly serving the entire urban population, it is the social obligation of the urban population to provide them with a shelter. The cost of providing housing for this sector should be inbuilt to form a part of the development cost for entire urban development either being recovered from the public or being granted to them in one way or the other.

6. Aesthetics or Urban forms

For ensuring desirable aesthetics & living environment in settlements, adoption of good building regulations providing for architectural, advertisement, aesthetic, tree preservation, landscaping, road side maintenance controls and their strict enforcement through qualified personnel is necessary.

The enforcement of National Building Code, which takes care of some of the above aspects may be helpful. The compounding of serious violations by imposing petty fines should not be allowed and such cases must be decided by tribunals instead of individuals. Without controlling urban anarchy, aesthetics and quality of life cannot be achieved.

7. Land Values and Speculations

It is a common experience that a majority of urban land is purchased by speculators who are not generally interested in construction of any kind but just want to hold it up as a source of future profits. The result is that the person really requiring the land either does not get it or has to pay a much higher price at a later stage. This ten-

dency encourages the land to be kept vacant for a long time and thus effecting the growth of housing, commercial and other urban structures. A few of the suggestions in this case could be the taxing of vacant urban lands, partly mopping up the unearned profits and adjusting the land disposal policy according to the future requirements.

8. Urban Data, Banks and Research

One of the most important raw-material for urban planning is the data base which unfortunately is missing. Though at state level and district level volumes of statistics is collected, however it is not oriented towards urban deve. Moreover what ever data becomes available it takes a substantially long times for its analysis and for making it useful for planning purposes. The result is that by the time the data becomes available it becomes obsolete. It is, therefore, necessary that with a slight modification additional data can be collected which would be useful for urban development.

Also adequate data processing equipments and people trained to process the data should be available within the department who could extract the necessary information after receiving the raw data which should be made available by the collecting agencies as early as possible. There is also a need for continuously updating the data and keeping abreast with the latest planning techniques and evolving new techniques to solve the urban problems cropping up as the urban users—use the facilities and start living with the plans. Thus a very strong research and development wing should be created in every State Govt. and at the National level and all the information should be exchanged and inter-linked.

9. Public participation in Plans

The entire urban development is meant to provide a healthy, efficient and convenient living and working urban environment to the people. It is, therefore, imperative not only to plan for them but also to involve them at all stages of planning and implementations. They should be educated on all laws related to urban development, quality of good and healthy living environment and the hazards of bad, unhealthy, polluted living conditions.

10. Urban waste management and uses of non conventional sources of energy

Urban living generates tremendous amounts of all type of refuse. Some of this refuse like glass, tiny rags etc. are to some extent are being recycled. However a very large component likely biological waste which can be used a regular source of energy is being wasted. Recently in Delhi some re-cycling of solid waste and its conversion to bio-gas to produce electricity has been done. To-day when we are passing through a phase of energy crisis and a sharp depletion of fossil fuels, this source along with other non-conventional sources like wind power, solar energy could be used to supplement the urban energy requirements.

HIMACHAL PRADESH

Himachal Pradesh, after it came into existence in 1971, has an area of 56,673 sq. kms. and a population of 42.81 Lakhs (1981 census), 92% of which is located in rural areas and remaining 8% in 48 Urban centres. Of the 12 Districts, in the State, the 48 Urban agglomerations are located in ten, the other two Lahaul-Spiti and Kinnaur are tribal Districts and have no urban centres. Between 1971 and 1981, there was a growth of 34.76% of the urban population against a total growth of 23.61%. The district wise changes in urbanisation are indicated below :—

Sl. No.	District.	Urban 1971	Population 1981	Growth rate 1971-81(%)
1	2	3	4	5
1.	Chamba	13,844	21,294	13.00
2.	Kangra	34,642	48,338	41.27
3.	Hamirpur	3,671	15,836	331.38
4.	Una	10,938	24,506	137.05
5.	Mandi	48,205	47,257	(-)-1.97
6.	Kullu	10,758	16,924	57.32
7.	Lahaul & Spiti	—	—	—
8.	Bilaspur	9,498	11,584	21.96
9.	Solan	23,945	32,623	36.24
10.	Shimla	61,274	80,177	30.85
11.	Sirmour	20,175	26,832	29.53
12.	Kinnaur	—	—	—
Total		2,41,890 (6.99%)	3,25,971 (7.61%)	34.76

The number of urban centres according to Districts are indicated below :—

Sl. No.	District	Number of towns	
		1971	1981
1	2	3	4
1.	Chamba	4	4
2.	Kangra	6	8
3.	Hamirpur	1	3
4.	Una	2	5
5.	Mandi	4	4
6.	Kullu	2	3
7.	Lahaul & Spiti	—	—
8.	Bilaspur	3	3
9.	Solan	6	7
10.	Shimla	5	6
11.	Sirmaur	3	3
12.	Kinnaur	—	—

There are in all 19 Municipal Committees, 1 Municipal Corporation, Shimla and 28 Notified Area Committees.

In 1951, the highest population was in Shimla and lowest in Arki amounting to 46,150 and 1048 respectively. In 1961 again, the highest was in Shimla and the lowest in Naina Devi, 42,597 and 328 respectively. In 1971, Shimla had a population of 55,368 and Naina Devi again the lowest with 494. In 1981, the population of Shimla was 70,604 and that of Naina Devi 618.

According to 1961 census, the highest percentile growth of population occurred in Dalhousie Municipal Committee and the lowest in Shimla which was 395.72% and 7.70% respectively. In 1971, Sundernagar registered the highest growth at 268.45% and Bilaspur the lowest at (-) 5.21%. In 1981 Dalhousie again registered the highest growth and Sundernagar the lowest which was 51.51% and 2.46% respectively.

In Himachal Pradesh conditions of terrain, communications, the agriculturally situation and the vagaries of nature have created scantily populated areas. The sensity of population is 77 as compared to 216 at the all India level. However, the permanent population would not be inaccurate indicator as a large number of the urban agglomeration of Himachal Pradesh like Shimla, Jawalamukhi, Chamba, Mandi, Rewalsar, Naina Devi, Nadaun, Palampur, Kangra, Dharamsala, Dalhousie, Rampur, Theog, Jubbal, Paonta, Nahan etc. are tourist centres where during a large part of the year, the population registers substantial increases. Many of these places are centres of pilgrimage e.g. Jawalamukhi, Rewalsar, Mandi, Naina Devi, Chintpurni, Chamba etc. in which there is a large influx of pilgrims regularly. The permanent population of Jawalamukhi is 3,230 according to the 1981 census, but five lakhs pilgrims visits Jawalamukhi annually the inflow of devotees being spread through out the year. Between 1961 and 1981, the number of motorable highways, either State or National, increased from 1300 Kms to 12605 Kms. making for easy access. There has also been a trend for increasing internal tourism of which Himachal Pradesh has been image of beneficiary, it being in the vicinity of the prosperous areas of Delhi, Punjab Haryana, Uttar Pradesh etc.

Various factors exists which will, apart from the normal incentives towards urbanisation, accelerate this

try. Among them are the facts that all the Districts have been declared in the State backward. That the labour situation is inheritably peaceful. That there is a large reservoir of unskilled labour available. That there is considerable potential in the development of Hydel energy and the development within the State itself which are making for jeopardise reputation. The terrain itself presents an impurible exceeds to advance in agricultures those virtually forcing the surplus labour into urban occupations.

Agriculture

The date for LAND utilisation statistics from the years 1969-70 to 1983-84 indicated that the area in forests increased from 638.5 thousand hectares to 862.1 thousand hectares, registering an expansion of 35.01%. During the same period the land declared as barren and unculturable also increased by 41.52%. The land declared as nonculturable waste, pastures and current fallows also decreased. The net area shown during 1969-70 was 543.8 thousand hectares which increased to 592.5 thousand hectares in 1983-84 an increase of about 3.48% annually. The area shown more than once and the total cropped area also recorded an increase of 0.03% and 0.06% respectively during the same period.

On the basis of professional surveys, the percentage of area under forests in 1969-70 was 11.4% which grow to 15.4% in 1983-84. However, there was a steep fall in 1975-76 to 11.2%. Barren and unculturable land was 2.9% of the total area in 1969-70 and 1983-84. The land put to on agricultural use decreased slightly to 3.2% in 1969-70 to 3.1% in 1983-84. Culturable waste land was 2.8% in 1969-70 which increased to 3.0% in 1970-71, declined again by 0.1% in 1971-72, by 0.7% in 1972-73 and with small ups and downs in again declined to 2.3% in 1983-84.

As regards permanent pastures and dother grazing land, they were 21.3% of the population in 1969-70 which declined in 1979-80 and 1980-81 and again increased in 1983-84. The total cropped area in 1969-70 was 16.3% of the total geographical area. Upto 1983-84, the percentile annual increase was extremely low and in 1983-84, the total recorded area was 17.4%.

Crop Productivity

Using 1980-81 as base year, the productivity of wheat, maize, paddy, ragi, millets, barley etc. was as follows :—

1. *Wheat*.—The production of wheat declined by 0.97% during 1981-82, 0.98% during 1982-83, 0.65% during 1983-84, and 0.6% during 1984-85. However, in 1985-86 the production increased by 1.01%.

2. *Maize*.—The production of maize declined by 0.88% during 1981-82, 0.76% during 1982-83. However, it increased by 1.12% during 1983-84, by 1.09% during 1984-85 and again declined by 1.01% during 1985-86.

3. *Paddy*.—The production of paddy declined by 0.76% during 1981-82, 0.58% during 1982-83,

0.89% during 1983-84, 0.94% during 1984-85, increasing by 1.01% during 1985-86.

4. *Ragi*.—The production of Ragi declined by 0.75% during 1981-82, 0.77% during 1982-83, 0.90% during 1983-84, 0.72% during 1984-85 increasing by 1.09% in 1985-86.

5. *Millets*.—The production of millets declined by 0.6% during 1981-82, 0.49% during 1982-83, 0.8% during 1983-84, 0.57% during 1984-85, increasing by 1.03% during 1985-86.

6. *Barley*.—The production of barley declined by 0.8% during 1981-82, 0.85% during 1982-83, 0.63% during 1983-84, 0.53% during 1984-85, increasing by 1.24% during 1985-86.

7. *Potato*.—Taking the year 1983-84 as the base, the production of potato declined by 0.8% during 1984-85 but remain steady in 1985-86.

8. *Ginger*.—Taking the year 1983-84 as the base, the production of ginger increases by 0.88% during 1984-85.

During the years, 1980-81 to 1985-86, the expenditure on agricultural inputs increased a pace as under :—

1980-81	197.97 lacs.
1981-82	331.66 lacs.
1982-83	388.46 lacs.
1983-84	450.45 lacs.
1984-85	583.97 lacs.
1985-86	696.41 lacs.

Fertilizer consumption increases from 12.34 Lakh tonnes in 1980-81 to 16.7 Lakh tonnes in 1984-85. The consumption of pesticides increased from 137.28 tonnes in 1980-81 to 300 tonnes in 1984-85. The total plan budget under the agriculture sector, excluding Animal Husbandry, Fisheries and Horticulture, during the 6th Plan was 1634 lakhs. Inspite of massive infusion of funds, the results have been disappointing. Therefore, investments in agriculture are not likely to commensurate return which will mean incommutable increase in the services and consequent growth in urbanisation.

Horticulture

The total level of horticultural products for 1970-71 was 148.6 thousand metric tonnes reaching a maximum limit of 341.9 thousand metric tonnes in 1981-82. Of these, the major component was apple, the production of which increased from 103.1 thousand metric tonnes in 1970-71 to 306.8 thousand metric tonnes in 1981-82.

The total road mileage covered from 382 lacs kms. in 1977-78 to 797 Kms in 1985-86.

Excise and Taxation

The available indicator of growth and population is a realisation of excise and revenues. During 1972-73, the revenue receipts of the State were 8.31 Crores, in 1973-74, increased by 0.72 Crores, in 1974-75 by 2.44 Crores, in 1975-76 by 1.66 Crores. These re-

venues continue to rise steadily until they reached the level of 54.16 Crores in 1984-85.

Power Supply

As regards power supply, the quantum availed of by consumers increased five folds from 1972-73 to 1984-85. During 1972-73, the domestic power supply was 23.262 million units increasing to 100.887 millions units in 1984-85. During 1985-86, the per capita consumption of electric energy was 119 units. The presumption made by the Electricity Board indicate that the per capita consumption of electricity by the urban population was 400 units from 1985-86 as compared to 95 units by rural population. During 1985-86, the urban population consumed approximately the following units of electricity :—

(i) Domestic	40 %
(ii) Commercial	20 %
(iii) Industrial	30 %
(iv) Water Supply pumping	5 %
(v) Street Lights.	5 %
Total	100 %

Eight major and medium hydel projects are at various stages of clearance in the Govt. of India. The completion of which will add 5600 MW to the availability of power. It is expected that the implementation of these hydel projects will in their wage create urbanisation as much concentrations of labour, skilled worker, Engineers etc. will be required as well as the widening of existing roads. This will also lead inamitable for secondary services both in terms and ancillary industries as well as services. This phenomenon was observed in the case of the B.S.L. which leads to the creation of the city of Sundernagar which has a population of 20.780 and is ranked as second large agglomeration in Himachal Pradesh. Such large concentrations of population create demands apart from services for various needs in terms of addabales etc. this changing the copying patterns of surrounding areas also.

Commercial Power Supply

During 1972-73, the commercial supply of power was 14.064 million units which increased to 43.428 millions units in 1984-85.

The industrial supply increased to 22.900 million units in 1972-73, to 265.634 million units in 1984-85. Public lighting increased from 1.123 million units in 1972-73 to 2.199 million units in 1984-85. In 1972-73, of the total of 1,79,616 connections 1,50,934 were for domestic use (84%) and 26,697 for commercial use (14.86%), 1.23% for the agricultural sectors and for the bulk/miscellaneous sector. In 1985-86, the total number of connections increased to 6,44,315 out of which 88.26% were domestic, 9.72% commercial and 1.57% industrial. Thus in absolute terms, the number of industrial connections increased from 2209 to 10,116 an increase of almost 500%.

Employment

Of the total of 3,35,101 unemployed persons registered with the Employment Exchanges, 73,642 or 22% are residing in urban areas whereas the propor-

tion of urban as opposed to rural population is 8%. The District-wise figures are as follows :—

Sr. No.	Name of Distt.	Un-employed persons residing within the jurisdiction of M. Corp./MCs/NA. Cs,
1.	Shimla	17,477
2.	Solan	5,051
3.	Chamba	6,215
4.	Bilaspur	3,975
5.	Kullu	3,253
6.	Mandi	9,966
7.	Hamirpur	6,637
8.	Kangra (Except Dehra & Jawali)	12,729
	Jawalamukhi & Dehra	1,485
9.	Sirmour	4,590
10.	Una	2,264

After Himachal Pradesh obtained State Hood, many industries and establishments of the Central Government, the State Government as well as in the private sector have been established. The locations of these institutions are mostly in Urban areas. The growth has been phenomenal as indicated below :—

- (i) Industrial Area, Paonta Sahib.
- (ii) Industrial Area, Bilaspur.
- (iii) Industrial Estates, Kangra.
- (iv) Industrial Estates, Solan.
- (v) Industrial Estate, Una.
- (vi) Industrial Estate, Bilaspur.
- (vii) Electronic Complex, Solan.
- (viii) Industrial Area, Parwanoo.
- (ix) Industrial Area, Mehatpur.
- (x) Industrial Area, Nagrota-Bagwan.
- (xi) Industrial Area, Reckong Peo.
- (xii) Industrial Estate, Dehra Gopipur.
- (xiii) Industrial Estate, Parwanoo.
- (xiv) Industrial Estate, Mehatpur.
- (xv) Industrial Area, Barotowala.
- (xvi) Industrial Area, Baddi.
- (xvii) Industrial Area, Shamshi.
- (xviii) Industrial Area, Sansarpur Terrace.
- (xix) Industrial Estate, Jawali.
- (xx) Industrial Estate, Dharampur.
- (xxi) Industrial Estate, Shamshi.

As regards the employment, the economic situation of the residents of the State is relatively better than most States as for R.D.Os unskilled labour needed for construction of roads, hydel projects etc. has to be imported from Jammu and Kashmir, Bihar, Orissa and Nepal. Local population does not come forward to engage in these activities even though they are reasonably paid. In fact during the tourist season labour from Jammu and Kashmir come to valley, large number to Shimla and Kullu. During the apple harvesting season, from 15 August to 15 November and the potato season, for carriage, loading and unloading, Nepal is labourer had to be employed. In addition, the

following areas are to be declared industrial in future :—

1. Hamirpur.
2. Chamba.
3. Shogi.
4. Keylong.
5. Amb.
6. Raja Ka Bag.
7. Tehliwala.
8. Mandi.

Industries

Expansion in growth of the urbanisation sector of Himachal Pradesh has been rapid. There are 70 large and medium industries and 15,000 small scale industries, investments in which are 200 Crores and 170 Crores respectively. There are 23 Industrial Estates in Himachal Pradesh of which 12 are located in either N.A.Cs or M.Cs. During the course of time the remaining areas which have growth of Industrial activities will inevitably be urbanised.

Of these 21 Industrial areas estates, 11 are along with the borders of Punjab, Haryana and Uttar Pradesh and are likely to benefitted from neighbouring industrialised districts of Dehradun, Ambala, Ropar, Hoshiarpur, Pathankot etc. The only disadvantage is that State did not have broad gauge rail heads. Entrepreneurs invested in Himachal Pradesh avail of larger subsidies :—

- (1) 25% Central Subsidy on fixed assets to which the State Government extend an additional 10% subsidy to the Scheduled Caste Entrepreneurs raising the level to 35% subject to a ceiling of Rs. 25 Lakhs which extends to Rs. 50 lakhs in case of electronic industries.
- (2) 75% of freight subsidy on cost of transportation of material from nearest broad gauge railway station to the factory site and for the transportation of finished goods from factory site to rail head.
- (3) 75% subsidy on the cost of preparation of project report by approved consultants subject to a ceiling of 1% investment on fixed assets of Rs. 1,00,000/- whichever is less and Rs. 5,000/- in respect of small scale Industries.
- (4) Subsidised land in the interior areas at 50% of the actual cost.
- (5) An interest subsidy to the units so as to bring effective rate to 3% below the Government lending rates.
- (6) Small scale units are given relief by way of concessional sale tax @ 3% for the first five years and 4% for the next five years for items chargeable @ 7%. In case of items liable to tax at the higher rates, the corresponding rates are 3% and 5% respectively. All small scale units are charged concessional sales tax @ 1% for the first five years and 2% for the next five years.

- (7) Interest free loans against C.S.T. actually paid are extended to medium and large industries subject to a ceiling of 1% of capital cost or project for units with investment up to fifty lakhs and upto a rate of 5% of the capital cost or the actual C.S.T. paid whichever is less.
- (8) 15% subsidy on the cost of generating sets subject to a ceiling of Rs. 75,000/- to units investing more than one crore.
- (9) Margin money is provided to entrepreneurs @ 7% subject to a maximum of Rs. 25,000/- in each case.
- (10) Finally price preference upto 17½% is allowed to the projects of small scale units sold to the State Government, while medium and large scale units are eligible for a price upto 5%.

Tourism

In future, tourism holds the commense promise for the prosperity of the State with scenic beauty, cilmant weather, exotic flora and a variety of life styles, cultures, dialects as well as architectural monuments. All these natural gifts make it most ideal hill resort in the work. These conditions are complemented by the net work of roads which has sprung up after the creation of Statehood. National Highway-I proceeds from Parwanoo through Solan to Shijla, Kufri, Theog, Narkanda, Rampur and on to the extremely beautiful Kinnaur valley. This highway is broad, all weather and with very gradual scenes. Other highway proceeds from Chandigarh via Swarghat, Bilaspur, Sundernagar, Mandi, Kullu, Manali and on to the exotic Spiti and Lahaul valleys. The sites of Shimla, Narkanda, Mandi, Jawalamukhi, Palampur, Jogindernagar, Kullu, Mandi, Dharamsala, Chamba, Dalhousie, and Kasauli etc. are famous tourist resorts. International movement is well known indicator of development. Economist have established that with coming prosperity, people tend to travel more by transport then by foot. This phenomenon is manifest in the flow of tourists to all areas of Himachal Pradesh. What was earlier confined to two or three months, is now spread out throughout the year. The prosperity of the neighbouring States of Punjab, Haryana and Uttar Pradesh has lead to a vast increase in the tourist influx. The increase in the number of hotels and restaurants is indicated to this terrain. Studies by the department of Tourism, Government of India and the World Bank have pointed out that in a country like India 63% of the amount spent by the tourists benefits the local destinations. The flow of tourists has been gradually escalated by the L.T.C. Scheme of the Govt. of India.

Apart from merely scenic beauty, every town of Himachal Pradesh is associated from antiquity with events or temples of religious scantity. Mandi, Nainadevi, Paonta, Nadaun, Chintpurni, Jawalamukhi, Chamba, Kangra, Manali, etc. or housed to Lakhs of pilgrims in the course of the year.

As mentioned earlier, Jawalamukhi's permanent population according to 1981 census is 3,230 but five Lakhs pilgrims visit it annually. These spots of

religious pilgrimage are all situated at lower elevations and thus inclement weather or terrain did not prevent access at any time of the year.

Increasing attention paid to the welfare of employees in the public sector has also led to a house of guest houses of a number of sectors being located in Shimla. The Himachal Tourism Development Corporation has hostels with a capacity of 2200 beds supported by a transport infrastructure with 50 coaches Cars and Jeeps. It also maintains a number of Cafe and Restaurants on the State Highways. There has been a quantum jump in the number of private hotels and restaurants as well. The Corporation has already constructed hotels at centres of pilgrimage like Jawalamukhi and is constructing them at Bharmour, Chintpurni and Chamunda Devi.

Education

The number of educational institutions in the State have also vastly increased. The details are as under :—

Primary Schools	= 150
Middle Schools	= 31
Secondary Schools	= 115
Universities	= 3

There are 299 educational institutions in Urban Areas. The total enrolment in primary schools is 6098/ and in Secondary Schools 15281. The total number of teachers is 3145. The training facilities include five schools for J.B.T. teachers, one B. Ed. College, one University, one Agriculture University and one Horticulture University. The literacy percentage of the teachers in urban areas is increasing very satisfactorily from 58.8% in 1961 to 60.58 in 1971 to 67.44 in 1981. World Bank studies have indicated that a key to attract highly skill labour had centralised or small locations is the Education System. (Hinderson 1983-C, World Bank Staff Working Paper No. 75). However, this high degree of literacy have certain inherent disadvantages in that high level of education, act as a disincentive for the educated to engage in employment which is not a white collar. Apart from this it also creates a disposition for urban life. The increasing sense on the education will, in near future, lead to urbanisation which will be further accelerated by the rising of the reasons which prevent para statel movements.

Ex-Servicemen

Himachal Pradesh has been a traditional recording grant for over a century to the armed forces. At present there are 86053 serving personnel and 95623 Ex-servicemen. In fact the District of Hamirpur has the distinction of having the large number of residents enlisted in the armed forces. Some times ago it was decided to create a quota system tied to the State population which naturally restricted Himachal Pradesh share in the armed forces, since the population is very scanty. In districts like Hamirpur, Una, Bilaspur, Kangra and Mandi which are not well served by natural education, this denial of recruitment will also lead to problems in future. This apart, generally, Ex-servicemen may be loath to reside in rural areas which could lead again to infreezing urbanisation. Roughly the towns of Himachal Pradesh situate along

certain well defined transport corridors :—Paonta, Nahan, Parwanoo, Barotiwala, Nalagarh, Mehtpur, Una, Gagret, Daulatpur, Dehra Gopipur, Nurpur, Dalhousie and Chamba is one such corridor which runs along the western, eastern and northern borders of the State. Another corridor traverses the districts of Solan and Shimla from Parwanoo, Solan, Shimla, Theog, Narkanda, Rampur, Jhakhri and Kalpa. The third one proceeds from Kiratpur via Swarghat, Bilaspur, Sundernagar, Mandi Pandoh, Bhuntar, Kullu and Manali. It can be expected that other towns will spring up along the course of these roads.

Conclusion

The following are the important recommendations discussed in the chapter :—

- The population of Urban Areas is increasing at an exclusive rate i.e. ranging between 21.96% (growth rate) to 331.38%.
- The area under forest and agricultural and also showed an immense increase from 1969 onwards. The barren and unculturable and showed a minor decrease of 0.1%.
- The expenditure on agricultural unputs increased by 351.78% during 1980-81 to 1985-86.

Suggestions

- Research Project should be sanctioned/created by the Central and State Government to study the Rural and Urban integration and to suggest the measures to strengthen them.
- Social and economic infrastructure be strengthened in smaller towns.
- Expenditure on provision and maintenance of Urban and civic amenities should be increased in proportion to the growth of urban population.
- The State and Central Governments should give special grants to such states who have abolished the Octroi in their states so as to augment the financial resources of the Local Bodies.
- In order to encourage the development of new towns economic incentives may be provided for the decentralisation of business and industrial activity in general in the interest of balanced regional development.
- Seed money for the development income generating schemes of the Local Bodies should be increased to 50% of the cost of the project, and such funds should be earmarked every year.
- A fund known as Urban Development fund should be created with substantial contribution from the State/Central Govt. for the purpose of Urban Development and this fund should be operated and maintained by the Directorate of Urban Local Bodies. It is also essential that all investments in the Urban Areas for the purposes of providing infrastructural facilities such as roads, water supply, buildings, parks, drainage and play fields etc. are channelled through this fund instead of independent agencies operating funds for different purposes.

JAMMU AND KASHMIR

A NOTE ON THE URBAN PERSPECTIVES AND POLICY FOR NATIONAL COMMISSION ON URBANISATION

HOUSING AND URBAN DEVELOPMENT DEPARTMENT

General Features

Combining alpine grandeur with Eastern charm. Kashmir is often known as Switzerland of Asia. The majestic heights of snow capped mountains, its picturesque rivers and its lush green forests offer some of the loveliest scenic beauty spots and have earned for the state the unique description of "Paradise on Earth". It has been the traditional route for culture and commercial exchange between India and the countries of the West including the Middle East. Today the State occupies a strategic place on the country's map with its borders touching Pakistan, Afghanistan, Tibet and China. The strategic position of the State has been heightened by continued postures of aggression of Pakistan and China.

The State, located in extreme North West of the country, lies between 32°-17' to 37°-5'N and between 72°-40' and 80°-30'. The mountains of Hindu Raj, Aghil and Kunlun lie on its northern boundary while on the west lies the Hindu Kush mountain range. Indus, Jehlum and Chenab flow through the State while Ravi separates it from Himachal Pradesh and Punjab.

The State has three geo-climatic regions of Ladakh Plateau, valley of Kashmir and Jammu. While Ladakh has little vegetation, about 45% and 57% of total geographical area is under forests in Jammu and Kashmir regions. The Ladakh region gets very small amount of rainfall. The annual normal rainfall being only 8 CM in Leh and can be treated as a cold desert. The valley of Kashmir receives an annual rainfall of 38 CM to 76 CM while it is 119 CM in Jammu District and 160 CM at Reasi. The valley of Kashmir, the mountains of Jammu and the Zosila (the Zoji Pass) get lot of snow during the winter. The mercury falls below the freezing point in Ladakh for about half of the year. Dras in Ladakh (Kargil Tehsil) is said to be the second coldest inhabited place in the world.

The State had 6758 villages and 56 Urban Areas according to census of India 1981. The former included 281 inhabited villages and the latter one urban area treated as such for census purposes, through the area is not formally declared or notified as urban under any Act.

The net Domestic product of the State has been estimated at Rs. 1479/- Crores in 1985-86 at current prices and at Rs. 458/- crores at 1970-71 prices. The per capita income was Rs. 2204/- at current prices and Rs. 683/- at 1970-71 prices.

There are 712 factories employing about 29,539 persons. Besides, there are about 20,000 small scale industrial units employing about 94,000 persons. According to Economic Survey conducted by Directorate of Economic and Statistics, there were 60,632 non-Agricultural Establishments in the State in 1980. The State is famous for handicrafts like Gabba, Namda, Woodwork, Wicker Willow and Embroidery.

II. Urban Dev. Reasons and Objectives

The extent of urbanisation has often been treated as an indicator of development of an economy. This is borne out by the following table :—

TABLE 2.1
LEVEL OF URBANISATION BY GROUPS OF
SELECTED STATES

Group	Level of Urbanisation (Percentages)			
	1951	1961	1971	1981
1	2	3	4	5
A	26.3	25.8	28.0	31.0
B	24.7	25.2	27.2	30.3
C	11.7	12.2	13.9	17.5

Source: The Morphology of Urbanisation in India by Rakesh Mohan in report of the study Group on strategy of Urban Development. Ministry of Works and Housing, Government of India, 1983.

In this table Group A States include these with per capita state Domestic Product above the All states average (i.e. Rs. 1107 in 1976-77) by 10% or more, Group B States are these which had per capita SDP within a range of 10% of the All States average SDP and Group C states were those the SDP to where of below the all states average SDP by more than 10%. Group A states included Gujarat, Maharashtra, Haryana and Punjab. Group B included Karnataka, Rajasthan, Tamil Nadu and West Bengal and Group C included the States of Andhra Pradesh, Orissa and Uttar Pradesh. This is to some extent because of the fact that as people become better off, there is tendency towards increase in demands of goods and services provided by secondary and tertiary Sectors.

Degree of urbanisation in India is much lower than that in other countries. The ratio of urban population to total population in India is about 24% which is one of the lowest in the world. Urban Population as percentage of total population in some advanced countries was as follows :—

TABLE 2.2

URBAN POPULATION AS PERCENTAGE OF TOTAL POPULATION

Country	Urban population as percentage of total
United Kingdom	78.87
Canada	73.50
France	69.97
U.S.A.	60.80
Japan	68.09
U.S.S.R.	55.85

Source : Report of committee on Urban Wastes Ministry of Works and Housing 1975 P.P. 7.

In most of the countries of the world, the ratio between rural and urban settlements is between 6.1 to 20.1. In India, it is as high at 180.1.

Jammu and Kashmir is one of those states of the Indian Union which are near the All India average. It ranked 10th among the states in terms of ratio of urban population to total population in 1981 as indicated in sub joined statement.

TABLE 2.3

URBAN POPULATION AS PERCENTAGE OF TOTAL POPULATION IN SELECTED STATES, 1981.

S. No.	States	Urban population percentage of total population
1	2	3
1.	Maharashtra	35.0
2.	Tamil Nadu	33.0
3.	Gujarat	31.0
4.	Karnataka	28.9
5.	Punjab	27.7
6.	West Bengal	26.5
7.	Manipur	26.4
8.	Andhra Pradesh	23.3
9.	Haryana	22.0
10.	Jammu & Kashmir	21.05
11.	Rajasthan	20.9
12.	Madhya Pradesh	20.3
13.	Kerala	18.8
14.	Meghalaya	18.0
15.	Uttar Pradesh	18.0
16.	Sikkim	16.2
17.	Nagaland	15.5
18.	Bihar	12.5
19.	Orissa	11.8
20.	Tripura	11.0
21.	Himachal Pradesh	7.7

Source:—Census of India, 1981 Provisional Population Table.

The ratio between rural and urban settlement in Jammu and Kashmir is 1 : 120.

There cannot be two opinions that a town, however small or big, is a visible symbol and instrument of national, regional or local market net work. The small number of urban areas vis-a-vis rural habitations thus speaks volumes about the State of access of rural areas to the national and regional markets. Their spatial distribution is, however, not that bad, though there are visible pockets without any urban areas mostly in the areas which have been declared as specially backward by the Government vide SRO No. 37-92 of 1970 dated 28-4-1970.

The extent of urbanisation has been rather limited as indicated above. It has, however, picked up pace during the recent past. During 1971-81, for example, the growth in urban population was by 46.8% which on the one hand indicates the changing structure of the economy towards secondary and tertiary sectors and on the other hand indicates that there will be much heavier demand for funds and resource of the State for development of Urban Areas by way of provision of basic infrastructural facilities.

Because of limitation on production and productivity of land, even with adoption of new and scientific methods of Agriculture and Horticulture, it may not be possible to absorb all the new working force in primary sector activities in future. This is also reflected in the trends in the recent past.

TABLE 2.4

WORKERS ENGAGED IN AGRICULTURE, LIVESTOCK, HORTICULTURE ETC. AS PERCENTAGE OF TOTAL WORKERS.

Year	Workers engaged in Agriculture, Horticulture, Livestock, Forestry, etc. as %age of total workers
1	2
1961	76.9
1971	67.8
1981	60.34

It must be accepted that urban settlements offer special advantage to certain types of activities in terms of provision of infrastructure, readily available market and often skilled/manpower etc. Industry and Commerce, especially the latter has, therefore, a tendency to gravitate towards urban areas. Hence in foreseeable future it will be useful to ensure rapid expansion of non-agricultural livelihoods and employment assisted by education and technological skills at urban and Semi-urban nodes.

III. Urbanisation in Jammu & Kashmir—The Record

Urbanisation of Jammu and Kashmir is of rather recent origin. In 1981, there were only two urban areas viz. Jammu and Kashmir. The number of urban areas has now gone upto 68 including 3 Municipalities, 5 Town Area Committees and 60 Notified Area Committees. Besides, there are two Cantonment.

The number of urban areas, as recorded in various census counter are as follows :—

TABLE 3.1
NUMBER OF URBAN AREAS

Year	Number of Urban Areas
1901	2
1911	45
1921	29
1931	31
1941	32
1961	43
1971	45
1981	58*

*Includes two contonments also.

Source: Census reports.

Note :—No census was held in Jammu and Kashmir in 1951.

It can be seen that the pace of urbanisation has gained momentum since the beginning of the planned area, the number of urban areas having almost doubled during the last 26 years.

The recent trend towards urbanisation can also be seen from the growth in urban population.

TABLE 3.2
GROWTH IN URBAN POPULATION

Year	Urban Population (Persons)	Decennial Growth Rate
1	2	3
1911	2,68,378	(—)0.28
1921	2,67,754	1.869
1931	3,17,805	31.64
1941	3,86,565	N.A.
1961	5,93,315	—
1971	8,58,221	44.65
1981	12,60,403	46.66

The figures in table 3-2 indicate that the urban population has more than doubled during the two decades following 1961. The rate of growth of urban population has been very high during these two decades as compared with the same during the past.

TABLE 3.3
RATES OF GROWTH OF RURAL AND URBAN POPULATIONS

Decade	Rate of Growth of		
	Urban Population	Rural Population	Total Population
1911-21	(—) 0.28	6.35	5.75
1921-31	10.69	9.00	10.14
1931-41	21.64	8.83	10.36
1961-71	44.65	26.65	29.65
1971-81	46.66	25.77	29.69

It can be seen that the population has increased at a much greater pace in urban areas than in rural areas. The increase in urban population has also been at much higher rate of late than during earlier decades

though the overall growth rate has been almost stable around 30% per decade during the last two decades. This could be attribute to steep fall in death rate especially in urban areas due to better medical facilities now available and (b) migration of population from rural areas to urban areas.

According to 1971 census, 906,161 persons were found to have been enumerated at places other than their place of last residence and were therefore recorded as migrants. They were distributed as follows :—

TABLE 3.4
MIGRANT POPULATION

Place of Environment	Place of last residence, in India (Lakhs in numbers)			
	Rural	Urban	Unclassified	Steep
Rural Area	6.41	0.82	0.19	7.42
Urban Areas	0.77	0.77	0.10	1.64
Total	7.18	1.59	0.29	9.06

In this State people tend to gravitate towards the two cities which are also the seat of authority (i.e. capitals during summer and winter). These, between themselves, cover about 63% of urban population according to 1981 census. The employment opportunities have been on the rise in the capital cities at a great pace both in the public as well in the private sectors. The former have been the result of expansion of various offices (including office of the Central Government) as also of setting up of new offices, including headquarters of corporations. In the private sector also, there has been a lot of expansion in the number of both industrial and commercial organisations. The number of shops and commercial undertakings in the two cities vis-a-vis other areas are indicated below :—

TABLE 3.5
NO. OF SHOPS AND COMMERCIAL UNDERTAKINGS NUMBER

District	No. of Units.	
Srinagar	22,421	} 40,297
Jammu	17,876	
Other Districts	20,443	
	60,740	

The number of factories in or around the cities and other towns is indicated below :—

TABLE 3.6
NO. OF FACTORIES' 1985
(As on 31-12-'85)

District	Number of factories	Employment
1	2	3
Srinagar	1.80	} 582
Jammu	4.02	
Other Districts	1.30	
Total	7.12	29,539

Since the State is connected by rail only upto Jammu, the road transport provides the main source of transport for goods and passengers. The rail reached Jammu only recently. People with enterprising spirit and with some background in transport, therefore, settled in towns and developed transport, as an industry. Important factors that contributed to development and migration of population to cities and urban areas besides the above include the following:—

- (i) Growth in number of tourists including tourist pilgrims. (The number of tourists visiting Srinagar was estimated at 691 lakhs during last year. Number of pilgrims who visited vaishno Devi Ji Shrine has been recorded at 13.97 lakhs during last year. (Annexure I indicates the growth in number of tourists).
- (ii) With the rise in production of fruit in the valley and induction of green revolution in rural areas, some of the better off considered that instead of parting with the part of the profit in favour of brokers, commission and forwarding agents, they may start this work in urban areas on their own. The increase in fruit production also created secondary jobs of handling and transporting fruit to outside market.

DENSIFICATION OF URBANISATION

It can be noted that the area of urban settlements has also increased especially since 1961. The growths in area has, however, not been able to keep pace with growth in population.

TABLE 3.7
URBAN AREA AND POPULATION

Year	Urban Area (Sq. Km.)	Urban population	Density of population (Persons/Km.)
1	2	3	4
1971	393.3	8,58,221	2182
1981	587.2	12,60,403	2318

Table : 3.7 confirms the impression that urban areas have become more thickly populated. The present trend in cities seems to be for people in the old congested areas to migrate to the peripheral areas, where density of population has been lower.

IV. Urbanisation Future Projections

The analysis of population trends give above reveals a significant acceleration in urbanisation. This has been true for the country as a whole "whether comparison is made with historical record since the beginning of the century or with what was expected as recently as in 1979" in report of Expert Committee on population projections. In view of this, it has become difficult to precisely project urban population especially in distant future. This, however, is essential for purposes of making an assessment of the magnitude of

tasks ahead in terms of planning for urban development. "The ideal methodology for so doing would be through the use of a dynamic model of the economy which simulates economic growth of the State, distributes this growth by sector as well as space and also models the interaction of demographic variables with economic growth." Such a model is, however, not available and hence recourse to much simpler techniques.

The Planning Commission, Government of India, has adopted the following projections of population :—

TABLE 4.1
POPULATION PROJECTION OF INDIA, 1981—2001
(millions)

Period	Population at the end		General fertility rate	Average birth rate		Expectation of life (Years)
	Total	Urban		Males	Females	
1	2	3	4	5	6	
1981-86	761	192	156	55.6	56.4	
1986-91	837	230	136	58.1	59.1	
1991-96	913	274	118	60.6	61.7	
1996-2001	986	236	102	62.8	64.2	

Source : Seventh Five Year Plan, Vol.-1.

Note : Projections pertain to mid year except for Col. 2&3, which pertain to 1st of March.

The Registrar General of India Constituted an Expert Committee on Population Projection, which estimated the population of Jammu and Kashmir State as follows :—

TABLE 4.2
PROJECTED POPULATION OF JAMMU AND KASHMIR

Year	Total	Urban	Urban Population as percentage of total
1	2	3	4
1981	59.62	12.55	21.05
1986	66.98	14.99	22.39
1991	74.37	17.72	23.83
1996	81.68	20.74	25.39
2001	88.59	23.99	27.08

Source : Town and country Planning Organisation, Government of India's No. F. No. 14-M/36-Tec Dated, 14-5-1986.

As already mentioned the growth in population (almost doubling in 20 years) is going to place heavy burden on resources and provision of basic civic amenities to the entire population to the desired extent will pose a challenge task.

V. Organisation for Urban Development

Urban Development in J&K, as elsewhere in India, presents a dismal picture to day. Every urban amenity, even in cities, not to speak of smaller towns, is available if at all at for less than commonly accepted norms. There is rarely any sewerage system. Communication, a practical yardstick of urban amenity and efficiency does not work. In many advanced countries, one can get any village or city on phone within a matter of seconds. In this state in quite a few towns one cannot contact another phone directly by dialing. Most of the urban amenities water supply, education, health facilities/transportation, environmental sanitation, energy supply are insufficient and have to be provided by various departments. Local Authorities have rarely any control over any of these, their role being restricted to items like surface drainage, control of building activity in the private sector, prevention of food adulteration etc.

Urban Development in the past has suffered because of following important factors :—

- (i) Lack of a well defined policy regarding development of a town or urban areas in general;
- (ii) Increasing supersession of Local Bodies over long periods;
- (iii) Widening gap between civic functions and resources of the local bodies;
- (iv) Lack of any serious effort on the part of local bodies to meet the new challenges of urbanisation and rising development;
- (v) Lack of an authority to coordinate the work of various departments and organisations in sphere of urban development;
- (vi) Lack of recognition that Urban Development is supportive to economic development of the State as a whole and to rural hinter land in particular.

A National Urban Development policy must therefore be adopted with main thrust on the following.

- (i) The National policy of Urban Development should view the whole range of urban settlement as having a role to play in the National dev. process (Para 23.1 VI Five Year Plan).
- (ii) Urban Development must be seen as complementary and not competitive to rural development both being obverse and reverse of the same coin. Thus policies affecting the process of urbanisation should be such as to strengthen the ties between towns/cities and the hinterland;
- (iii) There should be a greater emphasis on provision of infrastructural and other facilities in small and medium towns in order to strengthen their growth and service capabilities (Para 23.3.1. of VI Five Year Plan).
- (iv) Increasing trend of rural migration towards cities should be arrested to reduce top sided

population distribution by generating employment opportunities in small and medium towns.

- (v) It is essential to strengthen urban bodies financially so that there are able to provide and improve requisite infrastructure in their pherese of Urbanisation.
- (vi) Class I cities and Metropolitan cities have national importance as regional centres for growth and demonstration their growth as well as growth of capital cities be undertaken/funded by Government of India.
- (vii) Since growth of industry and commerce has a direct bearing on the development of towns, Urban Impact, of relatively larger projects must be studies before these are cleared/ approved.

To provide the basic amenities, efforts have been made on ad-hoc basis in the past. A number of authorities and organisations have been created with jobs often similar in nature. The Government recognised this in as far back as 1981 when it issued a Government Order No. 1718-GD of 1981 dated 15-11-1981 to define the duties and areas of charge of various organisations in urban areas of the State (Annexure I).

A separate Department of Housing and Urban Development was constituted in 1971. As defined in the Government Order of 15-7-81 referred to earlier it is "responsible for supervision, overseeing and monitoring of implementation of various programmes through different agencies in the field". The Department is to ensure the desirable degrees of co-ordination, whenever needed, amongst various field agencies so that a co-ordinated and comprehensive urban development programme takes shape. In practice, however, its area of operation has been limited to its subordinate organisations, only with the result that it often happens that a lane, prepared by Municipality, Development Authority or Public Works Department (R&B) is almost immediately after it is complete damaged by some other organisation like Telephone Department or Public Health Engineering Department. It has also often been noted that after the Development Authority or Housing Board lays down a colony it take a lot of time for public Health Engineering Department or Electricity Department to provide piped water supply or electricity to the colony.

In order to help orderly growth of urban areas, it is essential that the Urban Development Department plays a more effective role. This could be ensured if it has an effective control over release of funds meant for urban areas. A beginning could be made with funds meant for the two cities.

Another important function that it must undertake is to study urban impact and "Spatial Impact" of important relatively larger industrial/Commercial ventures/Projects in the sense of likely urban facilities required and its phasing. For this, formats may be devised in consultation with Central Ministry of Urban Development. Industries Department may ensure that no project worth more than Rs. 5 lakhs

or generating more than 100 persons direct employment is cleared without getting such formats filled up and getting clearance of urban Dev. Deptt. about its preparedness to provide requisite infrastructural facilities. Similarly, PWD/PDD should furnish similar returns to Housing Department in respect of bigger projects so that Housing Department could ensure synchronisation of availability of Urban civic amenities with the implementation of the project. This will help reduce chances of slum proliferation. In order to ensure that such impact studies are conducted in Housing Deptt. expeditiously. Planning and statistic Cell of the Department may have to be strengthened (CF para 22 page (xiii). Report of Task Force on planning of Urban Dev. Planning Commission Government of India).

Housing Board : The J&K Housing Board was created under the J&K Housing Board Act, 1976 in order to provide organised housing activity in the Public Sector. During the course of its existence, it has constructed 676 flats for State Government employees at Jammu and Srinagar. Besides it has got about a hundred residential sets constructed for Government employees in various districts. The Board has also developed the following colonies :—

TABLE 5-1

COLONIES DEVELOPMENT BY HOUSING BOARD

Name of Colony	Plot Strength
Channi Himmat Jammu	3311
Udhampur Phase-I	343
Baghi-I-Mehtab Srinagar	184
Udhampur Phase-II	1070
Fateh Garh	1170
Ompora Budgam	298
Kanilbagh, Baramulla	74
Kanthbagh and Gutyar Baramulla	

During 1984, it was decided that Housing Board may also provide loans to people including Government employees for construction of houses under Low Income Group Housing. Middle Income Group Housing and House Building Advances. It was felt than Housing Board will be able to procure loan from financial institutions like HUDCO, HDFC etc. and promote the Housing activity on a large scale. The Government, it was decided, would provide funds to Housing Board to meet the difference between the interest charged from the loanees and the interest to be paid to the lending financial institution. The Board provided loans to more than a thousand persons but it could not procure institutional finances and hence it was decided in Oct. 85 to transfer the work of grant of House Building Advances to Government employees to respective Heads of Departments.

Town Planning Organisation has been charged with the responsibility of preparation of Master Plans, Zonal Plans and Development Plans. There are two Chief Town Planners One for Kashmir and one for Jammu. Master/Development Plans have so far

been prepared in respect of the places indicated in Annexure III. As in most of other States, the Master plans have been in the nature of perspective land use plans. These have, however been infratious because of lack of connection between these physical plans and the investment plans at the city or state levels. The Master Plans were also prepared in isolation for various towns or cities without comprehensive regional Planning Perspective so that the upward and downward linkages of towns were often not that clear with the result that Public awareness about master Plans has often been lacking.

Architects Organisation provides Architectural designs to Government Organisations and Departments for construction of buildings. With the introduction of Architects Act to the State, it has become necessary for people to get maps prepared by qualified architects to get the building plans approved from the Building permission committees in the two cities.

Municipalities and other local bodies are supposed to provide the civic amenities to the respective areas as provided under municipal Act or Town area Act. The Committees have however been faced with a number of problems which include (a) frequent supersessions (b) very weak financial position which is mostly a result of a large number of employees not commensurate with their resources position (c) weak administration (for instance, the number of building permissions granted by S. M. C during last three years was 4325 or an average of 1442 permissions per annum. The annual addition to housing stock during 1971-81 decade according to census records was about 2000 which shows that the permissions granted were about 72% of the Houses really constructed.

The Development Authorities have been constituted under the J&K Development Act, 1978. Development Authorities have been constituted so far for the following areas :—

1. Srinagar.
2. Leh.
3. Ompora
4. Phalgam.
5. Jammu.
6. Udhampur.
7. Kathua.
8. Katra.

As defined in Section 6 of the Development Act, the functions of the Development Authorities are as follows :—

“The objects of the Authority shall be to promote and secure the development of the local area for which it is constituted according to plan and for that purpose the authority shall have the power to acquire hold, manage and dispose off land and other property to carry out building, engineering and other operations, to execute works in connection with supply of water and

electricity disposal of sewerage and other services and amenities and generally do any thing necessary or expedient for purpose of such development and for purposes incidental thereto.

The two cities are conveniently located in a mosaic of geographical regions. The Task Force for Planning and Development set up by Planning Commission, Government of India in 1983 suggested that there should be separate Metropolitan Planning Authorities which should not be executive bodies to implement the works. The main job of MPAs has been suggested to be preparation of a 5 years Plan coterminus with National Plans. This may be done by preparing a perspective physical plan for 10-20 years. This physical plan may then be converted into an investment plan (including expected investment by private sector) and consequently a financial plan. This could then be integrated with sectoral allocations and priorities set at State level. Since there are a number of Authorities/Bodies already it is proposed that an economic planning wing under a selection scale officer of Economics and Statistics Cadre be set up in each Development Authority dealing with city of Jammu and Srinagar.

VI. HOUSING

Unlike some rich States like Punjab, the number of houses constructed during 1971-81 has not been able to keep pace with the growth in population or increase in number of households as reflected in following table :

TABLE 6.1
Growth in urban Households and residential Houses 1971-81

Item	Number (in Lakhs)		Increase (Lakh Nos.) 1971-81
	1971	1981	
1	2	3	4
Population	8.58	12.60	4.02
Households	1.34	1.99	0.65
Residential Houses	1.06	1.57	0.51

The Government has been aware of the growing requirement of houses especially of the families of relatively less affluent ones and hence started development of Housing Colonies. A list of Colonies Developed with plotted strength of each is enclosed as Annexure IV. The Government created a separate Department of Housing and Urban Development in 1971. Considering that Budgetary resources may not be sufficient to help development of sufficient number of plots, that procurement of institutional finance is a necessity and that to give a boost to development of housing activity, it is essential to have a specialised institution for this purpose, a Housing Board was constituted.

Colonies were also developed by Jammu Development Authority which includes Roop Nagar, Janipora, Digiana, Trikuta Nagar Etc.

Not much of institutional finance could, however, be procured by Housing Board, so that finances available for promotion of Housing activity by Housing

Board remained restricted to funds provided by Government and the advance/payment received from beneficiaries. The Housing Board did not invest the whole of the amounts available with it from Government on various accounts. Instead, these funds were kept in fixed deposits in order to earn interest. The inducement to earn interest (rather than that to invest) was the result of a number of facts indicated below :—

- (i) Even at the stage of infancy, the Housing Board was not provided grants for maintenance of staff;
- (ii) The Government funds were sanctioned for specific purpose/schemes;
- (iii) To keep prices of plots down to the minimum level Housing Board could not charge interest on its investments in plotted Development.

The result has been that whereas about 10 thousand plots were developed in Government colonies in about two decades (including colonies for rehabilitation of refugees in Jammu) before the setting up of Housing Board, the plots developed by Housing Board, in its existence over about a decade has been of the order of 7257.

Another difficulty encountered in plotted development is that of provision of basic facilities like outer roads, water supply and electricity. It was felt that the Government should bear the capital cost involved for provision of these facilities for the following reasons :—

- (i) If the capital cost is built into the price of Plot, the cost of plot (including cost of land, land leveling internal roads water supply etc.) would be too much to be within the reach of the poorer sections of the people. For instance, the cost comes to about Rs. 120 per sqr meter in Chhani Himmat, where outer roads were already available. The plots are available at about Rs. 110 per sqr. mtr. near Budarpur Power Station according to an advertisement in Punjab Kesari of 15th April, 1987.
- (ii) Our Welfare State is committed to provide these basic facilities even in remote areas without charging any cost. The consumers in these colonies should not be discriminated against.
- (iii) The higher cost of the plots is organised colonies vis-a-vis other areas can lead to (a) growth of slums and (b) push up prices of other areas especially that of old city since these are relatively better placed in term of infrastructural facilities nearness to market and place of employment etc.

The State Cabinet, therefore, decided in 1970 that the Government in the respective Departments, will provide for these facilities. This was formalised vide Government Order No. 171-UD of 1978 dated. 23-3-1978. It has, however, been found that because

of limited resources and different priorities, development of colonies in Urban and semi-urban areas often get a set back for want of provision of these facilities. Also, in certain cases these were not built into the cost (e.g. in case of Chhani Himmat Colony) when originally applications were invited. Later, when cost on account of these was included, the cost of plot went up abruptly (from about Rs. 70 to Rs. 120 per sq. mtr. in case of Chhani Himmat) this affecting the credibility of Board adversely.

The slower growth of number of plots in the organised sector as compared with urban population, coupled with the problem of rising prices of developed land in organised as well as in informal sector has lead to the phenomenon of slum population, development of unauthorised colonies and encroachment on Govt. land.

The shortage of houses was assessed by National Building Organisation at 1,53,580 houses included 69,171 houses in Urban areas. It also assessed the current requirement of houses due to splitting up of old households on the basis of growth rate during 1971-81 decade at about 17 thousand per annum including about 8 thousand in Urban areas. If the shortage is to be wiped off by 2001 and if pacca and semi pacca Houses are replaced @ 2% of the existing stock and katcha Houses @ 5% of the stock to keep them usable, the total annual requirement is of the following orders :—

TABLE 6.2

Annual requirement of houses

Annual requirement of Houses	Urban	Rural	Total
1	2	3	4
(i) To wipe off backlog @ 5% of over crowding .	2,066	4,405	6,111
(ii) Demand due to growth in number of households	6,376	10,898	17,274
(iii) Requirement to replace old and ageing agency houses @ 2% of pacca and semi-Pacca Houses and @ 5% of Katcha Houses not included in (i) above	2,577	23,183	25,760
Total	11,019	38,126	49,145

The demand for houses in Urban areas will grow in future as growth of numbers goes up. Even at the present rate, it seems to be beyond the reach of Housing Board and Development Authorities to develop plots at the rate required

Housing Board and Development Authority have not embarked upon the task of construction of Houses for being leased out/sold to people. Their construction programme has been limited to that for Estates Department, which has to rent out flats/quarters to employees mostly of the Moving Offices at Jammu and Srinagar.

Whereas it has been noted that organised sector has not been able to keep pace with the growth in population many allottees do not construct houses on the plots so allotted even after lapse of considerable time. This can be because of any of these three factors :

- (i) the allottee may not have financial resources to put up a house.
- (ii) the allottee may not need the house immediately.
- (iii) the allottee may not be in need of house but might have procured the plot for future gains/for speculative purposes.

The vacant plots thus create an artificial scarcity. These also result in wastage of scarce resources involved in development. It is, therefore, desirable to curb this tendency.

In order, therefore, to avoid this phenomenon it is proposed that : —

- (i) While leasing out plots in future, the Housing Board/development Authority may impose a rider that in case leasee fails to construct a house on the plot allotted to him, the Board/Authority may withdraw the land at the price/premium at which it was given to the allottee.
- (ii) The allottee will not be able to sell the plot/sell leasehold rights to anybody except with prior permission of the Board/Authority and the Authority/Board will be entitled to charge share of profit, which may not be less than the rate charged on Housing loan of the category of person (E.W.S./LIG/MIG/HIG) to which the person belonged at the time of allotment.
- (iii) As far as possible, loan should be made available to any person, who is allotted a plot and may seek loan within one year from the date of allotment by the Housing Board. Preference must be given to people of E.W.S./LIG and MIG categories in provision of loan in descending order.

In order to promote flow of private money for housing, Housing Board should pay interest on advance payment received from indenting applicants. Housing Board may also charge interest on its investments and build that into cost of plot/premium of plot. The two rates need not be the same.

As far as possible E.W.S. families be provided low cost shelter, put up on a mass scale in the

public sector. The structure be allotted on hire purchase basis with same stipulation on transfer as in case of the plots. This will help keep costs at a low level and will also reduce chances of transfer of houses from E.W.S. families to others.

VII. URBAN LAND

Availability of land is one of the most important consideration in Urban Development in General and for a Housing in particular. What is important is that land should be available at right time, at right price and at right place.

In the Urban context, the price has acquired the most important position with the prices of land, especially in cities, having shot up abnormally so that housing especially for E.W.S. and L.I.G. categories is becoming increasingly difficult.

In order to ensure availability of serviced land a pragmatic land Acquisition policy may be formulated. For this purpose, recourse can be taken to (a) acquisition of land at low prices and sale of developed land later at market prices or (b) acquisition of land (not fit for agriculture) and sub-division of public land supplemented by improvement in transport, decentralisation of employment and off-site service locations. The latter can lower cost of Urban land supply. Since group and co-operative housing schemes tend to secure the optimum use of land, these need encouragement. Development Authorities/Housing Board should formulate a Land Development Plan for next 10 to 20 years, which should synchronise with State's Urban Housing Development Plan. Such far sighted approach has been pursued by Municipalities in West European countries like Sweden, France and Spain. The land is purchased in private market with right of pre-emption resting with Development Authority/Board. The acquired land is then developed by the providing infrastructure and can thus be available at reasonable prices.

To keep costs within affordable limits, the Government must provide infrastructure like water supply and electricity to all the city peripheral areas. Low Cost technologies should be employed, as far as possible so as to keep cost within manageable limits i.e. availability of resources.

A fresh look may be taken regarding building bye laws and land use controls to ensure greater densities consistent with services to permit small plots and lesser set backs, provide group open spaces on the lines of suggestions made by Indian Standards Institute and study group headed by Chairman and Managing Director of HUDCO. Land use Planning should provide cities, economic functions and encourage mixed land use. Apartment ownership Act, on the lines of Maharashtra and West Bengal, be adopted to enable members of Group Housing Schemes to possess individual titles to apartment. This can help save the use of land.

Where people have settled on lands in unauthorised colonies, if these do not happen to be located in

unsafe areas and if such land is not immediately required for public use, the residents may be provided security of tenure so as to encourage them in construction of houses. The beneficiaries may be charged some premium to meet the cost of development at least partially.

Large parcels of land are held by Government Departments. The Local Body/Development Authorities should prepare a record of such lands and where such lands are found to be in excess of the requirements in the foreseeable future, the same be developed by Local Body/Development Authority for housing or any other relevant purpose.

Since Public Investment cannot cope up with the large scale requirement of funds for housing, it is essential for private sector to fill up the gap. The fact that construction of houses has lagged behind the demand/requirement indicates the immediate need to encourage private sector on the lines of recommendations made by working group on private Housing constituted by Ministry of Works and Housing, Government of India. Some of the Important recommendations in this connection are :—

- (i) Urban Land tax on all vacant land and tax on land apartment to buildings where such land is in excess of ceiling limits be imposed.
- (ii) Development charge be levied on lands in the periphery of cities but included in Local Area under Town Planning Act for development of land when converted from present use to housing or commercial used.
- (iii) A levy be imposed at pre-determined rates for conversion of land use from residential to commercial, industrial or any other such land use.
- (iv) Regulation of activities of private developers on the lines of Maharashtra legislation or on the lines of Haryana's licensing provisions.
- (v) Transfer of plot to second and subsequent parties be taxed (a suggestion in this regard has been made in case of allotment of plots by Government agencies already).
- (vi) Municipalities be authorised to charge land value tax or land value increment tax so that part of speculative benefits accrue to Local Bodies. Government may notify the operative rates once in five years. This will also make operative rates a public knowledge and curb speculative tendencies. For this purpose, a system of monitoring of urban Land prices will have to be developed under the guidance of the Housing Department. An Urban price statistics unit may be set up for this purpose.
- (vii) Land readjustment, sites and services, self-help housing scheme. Night shelter scheme and Land Bank Scheme may be considered for promotion

- (viii) Tax concessions (like that on income tax/wealth tax) may be provided on investments made/funds lent to Housing Boards or Development Authorities/Co-operative Societies etc. for development of Housing. Similarly, tax concessions may also be granted on housing loan repaid to Housing Board / Development Authorities / Government upto the extent long term savings are exempted.
- (ix) Since large scale investments in industry/commercial organisations tends to raise the prices of urban land, before a licence is issued to industry being set up in or around the city/urban areas with an investment of Rs. 5 lakh or more, it should be subjected to a return on "Urban impact" so as to determine the likely effect on urban land prices, the likely additional requirement of housing and other infrastructural facilities. In order that this is done speedily, the Planning and statistics cell of the Housing Department may be strengthened suitably.
- (x) A three tier system of Housing Finance with a National Housing Bank at the top be introduced.
- (xi) In order to ensure synchronising of development of colonies and provision of infrastructural facilities like outer roads, water supply and electricity, funds for such activities meant for urban areas be earmarked by Planning Department in consultation with Housing Department and the P.D.D./P.W.D./P.H.E. Department. In the alternative, the funds may be placed at the disposal of Housing Department by the concerned Departments and Housing Department may release these to the concerned Budget controlling officers (S. Es. etc.) for each colony/pocket.
- (c) making available enriched compost for agricultural production.
- (ii) The local bodies may supply refuse bins to house holders of E.W.S. category at subsidised cost for which they may be reimbursed by the State and Central Governments on matching basis.
- (iii) Local Bodies be empowered to lay down standard size and shape of refuse bins and may be empowered to enforce their installation in each house on the lines of powers available to Bombay Municipal Corporation.
- (iv) Effective steps be taken to do away with the practice of manual handling of night soil. This can be done by taking resort to low cost pour flush water seal latrines where water table is not too shallow.
- (v) The Central Government may bear 50% of cost of wheel borrows required in class I cities.
- (vi) Local authorities may levy a special charge on activities which produce bulk refuse (like vegetable markets) as is done in a number of countries.
- (vii) Where the scale of commercial operations, narrowness of roads etc. are constraints to an efficient removal service, Government/Municipal authorities may consider transferring such markets to alternative sites (as is being done in respect of fruit and vegetable markets).
- (viii) A phased programme be prepared, depending upon conditions, for change over to mechanised transport. The selection of vehicles be made keeping in view all relevant factors. The entire operation of transport should be carefully systemised and timed so as to achieve the aim of keeping the city clean and tidy causing least annoyance, inconvenience and nuisance to the citizens and disruption in normal traffic.

VIII. DISPOSAL OF URBAN WASTE.

A committee on urban wastes was constituted by Ministry of Health and Family Planning, Government of India, under the Chairmanship of Sh. B. Sivaraman Vice-Chairman National Commission on Agri. and Member of Planning Commission in 1972. Some of its important recommendations, which merit being considered and adoption include the following :—

- (i) The whole question of storage, collection transportation, disposal etc. of refuse needs being examined in an integrated manner keeping in view the following objectives :
- (a) cleanliness of cities/towns through a well designed and equipped system of collection, removal and disposal of urban garbage;
- (b) eradication of the degrading practice of manual handling of night soil and other urban refuse by provision of suitable handling equipment to sanitary staff; and
- (ix) Local Bodies be prevailed upon to convert dumping into sanitary land fills.
- (x) Since dumping of wastes in water bodies constitute a health hazard, it should be prohibited by law.
- (xi) Incineration of wastes, excepting those of hospitals be prohibited.
- (xii) Depending on local conditions, all compostible material should, as far as possible, be utilised for composting and the remaining material disposed of by sanitary land filling.
- (xiii) Government may revitalise the scheme of Urban composting and provide technical and financial assistance to Local Bodies for this purpose by debit to Agriculture Sector since composting will be advantageous to agricultural operations.

- (xiv) Procedure for acquiring land for composting grounds be simplified and, if necessary, special powers should be given to local bodies to acquire land for this purpose.
- (xv) The system of selling compost by heaps or truck/cart loads be replaced by sale at fixed prices by weight.
- (xvi) The Centrally Sponsored Scheme for promotion of composting with sub-sidy (a) for management for first 5 years of composting plant's existence, (b) for fertiliser distributed on per tonne basis and (c) investment by way of share capital contribution in setting up composting plants in class I cities may be re-introduced.
- (xvii) Detailed urban waste disposal planning be undertaken by Municipalities and Local Bodies under the overall coordination at State Level.

IX. FINANCING OF URBAN DEVELOPMENT

As already indicated, the Local Bodies (Municipalities, Town Area Committees etc.) are financially very weak. Many of them are not able to spare funds for providing civic works of Capital nature after meeting the costs of maintenance including cost of staff. At present, the Government, provides funds under various plan schemes on more or less ad hoc basis. Government also provides funds for meeting D.A. and A.D.A. requirements on a tapering basis. It also provides share of the entertainment tax. Some of the taxes which accrue to the Government mostly from Urban areas include the Sales Tax,

stamp duty on transfer of Urban land, property tax and wealth tax. State Government may constitute an Urban Development Finance Committee/Commission to undertake periodic investigations of the needs and resources of Municipal bodies in order to assess the adequacy of finances for providing at least a minimum level of basic services to the population and to suggest the devolution of state funds and sharing of taxes in a regular and predictable manner.

An urban Development Finance Corporation may be set up to provide Finance to Development Authorities and Urban Local Bodies. The Finance Corpn. will receive initially funds from the State Government. The Urban Local Bodies and Development Authorities will contribute (say) 1/2% of their income to the Corporation. The Corporation will have representatives of State Planning, Finance and Housing Department besides those of Local bodies and Development Authorities on its Board of Directors.

As already mentioned, funds for urban areas are provided with different Departments according to sectoral allocations. One way of co-ordinating the activities of all Departments is to route all funds through a single organisation i.e. Urban Dev. Department.

An alternative could be to prepare a city Development sub-plan through each programme implementing Department and the Urban Development Department or Planning Department may ensure that the Sectoral allocations synchronise with one another.

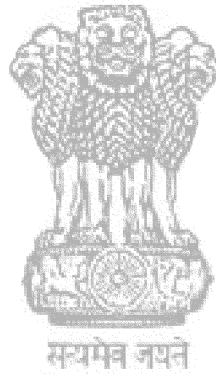
Recommendations for Financing of Housing have already been indicated above.



ANNEXURE -I

No. of Pilgrims visiting Vaishno Deviji

Year	Number of pilgrims (Lakhs numbers)
1950-51	0.03
1955-56	0.06
1960-61	1.60
1966	2.30
1973	4.54
1980	12.13
1985	14.85
1986	13.97



ANNEXURE-II

GOVERNMENT OF JAMMU AND KASHMIR GENERAL DEPARTMENT

Subject :—Duties and area of charge of various organisations in the urban areas of the State.

Reference :—Cabinet Decision No. 300 dated 6-7-1981.

Government Order No. 1718-GD of 1981

Dated : 15-7-1981

It is ordered that functions and responsibilities of the following Departments/Organisations shall be as indicated against each :—

(i) HOUSING AND URBAN DEVELOPMENT DEPARTMENT

The Administrative Department of Housing and Urban Dev. Deptt. will function primarily as Secretariat Department responsible for supervision, overseeing and monitoring of the implementation of various programmes through different agencies in the field. The Department will ensure the desirable degree of coordination, wherever needed, amongst various field agencies so that a coordinated and comprehensive urban development programme takes shape. The Department will be responsible for management of various cadres of the staff engaged in different departments subordinate to Housing and Urban Dev. Department. The Department will also function as the financial control and help various statutory and autonomous bodies working/engaged in urban development and housing in the field to arrange loans from financial institutions.

(ii) HOUSING BOARD

The Housing Board will be responsible for identification of new areas for laying out of colonies, development of the housing colonies, allotment of plots, disbursement of loans, arrangement of funds from various agencies including HUDCO and the Bank etc. etc.

Persons who have already received loans and whose files are in the Administrative Department will continue to be looked after by the Administrative Department of Housing and Urban Development—till such time as the Housing Board develop the necessary capability to handle the task.

(iii) DEVELOPMENT AUTHORITY SRINAGAR AND JAMMU

The Development Authorities, Srinagar and Jammu will be responsible for all the developmental activities including shun clearance, construction of new roads, laying out of surface drains, execution of sewerage and drainage programmes, of the urban areas according to the Macro plans drawn up for this purpose and activities connected with the implementation of Master plans including the development of roads communication system within the cities of Srinagar and Jammu.

(iv) SRINAGAR AND JAMMU MUNICIPAL COUNCILS

The primary task of the Srinagar and Jammu Municipal Councils will be sanitation, maintenance of the lanes, drains, street lighting and similar other civic amenities in the two cities and such other functions within their jurisdiction.

(v) URBAN ENVIRONMENTAL ENGINEERING DEPARTMENT

The Urban Environmental Engineering Department is re-designated as the Department for the Development of Dal Lake and it will be responsible for the preparation of Master Plans for Sewerage and Drainage of the two Cities of Srinagar and Jammu.

(vi) CHIEF TOWN PLANNER JAMMU AND SRINAGAR

The Chief Town Planner, Jammu and Kashmir will be responsible for preparation of Macro and Micro plans for the development of the cities of Srinagar/Jammu and such other urban areas of Tourist resorts as are selected for this purpose.

By order of the Government of Jammu and Kashmir.

Sd/-

(A. R. Mubarki)

Deputy Secretary to Government,
General Department
Dated : 15-7-1981

NO. GD (Adm) 29/81-V

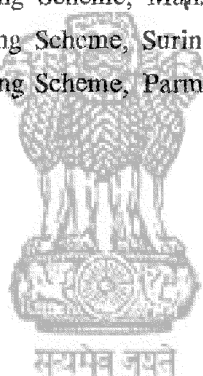
Copy to the :—

1. All Commrs./Secretaries to Government.
2. All Heads of Department.
3. Secretary to Governor/Chief Minister.
4. Private Secretaries to Ministers/PA to Minister of State/D. Minister.
5. Divisional Commissioner, Kashmir/Jammu.
6. Director of Information.
7. General Manager, Govt. Press, Srinagar.
8. Accountant General, Srinagar/Jammu.
9. All Chief Engineers.
10. P.A. to Chief Secretary/Addl. Chief Secretary.
11. Sub-Section III (M.R.W. 2s.es.).
12. Stock file.

ANNEXURE-III

Master Plans/Development Plans/Town Planning Schemes prepared

1. Master Plan Srinagar.
2. Master Plan Sopore.
3. Master Plan Anantnag.
4. Master Plan Gulmarg.
5. Master Plan Leh.
6. Master Plan Jammu.
7. Master Plan Kathua.
8. Town Planning Scheme, Pahalgam.
9. Town Planning Scheme, Kokernag.
10. Town Planning Scheme, Sonamarg.
11. Town Planning Scheme, Bari Brahmana.
12. Town Planning Scheme, Katra.
13. Town Planning Scheme, Doda.
14. Town Planning Scheme, Mansar Lake Area.
15. Town Planning Scheme, Surinsar Lake Area.
16. Town Planning Scheme, Parmandal.



ANNEXURE-IV

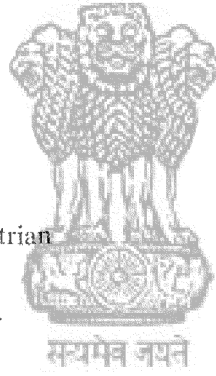
Government Colonies and plot strength

I-SRINAGAR

1. Jawahirnagar	547
2. Narsingh Gar and Balgarden	344
3. Suthra Shahi	121
4. Natipora	419
5. Bota Kadal	619
6. Soura East	521
7. Rawalpura	161
8. Brain	75
9. Sangeen Darwaza	156
10. Bemina-Barthana	2101
11. Bijbehara	281
12. Numblabal, Pampore	199
Total	5544

II. JAMMU

1. Gandhinagar	1645
2. Shastrinagar	547
3. Janipora	1476
4. Patoli Mangotrian	618
5. Sunjwan	82
6. Gujjar Nagar	91
Total	4459



KARNATAKA

THE PATTERN OF URBANISATION IN KARNATAKA

Economic growth in developing economies, where most of the population works in the agricultural sector, is inevitably accompanied by a continuous process of urbanisation, or a shift of population from rural areas to urban settlements and from agricultural to non-agricultural occupations. During this process villages become towns and old towns grow in size. The process should not, however, be viewed purely as a matter of statistics-as a matter of change in the rural population urban population ratio. Urbanisation involves profound social, economic and psychological transformation and changes even national culture. The social environment of today's industrial cities is a world apart from the placid life of a village.

Urbanisation is a sign of economic growth. In a stagnant economy there would be no shift of population from villages to towns. However, it is well known that urbanisation is not always a healthy process. Urbanisation differs greatly from nation to nation and between regions in the same nation. It can have a wide array of negative effects. A rapid migration of population from the rural areas to towns can bring disastrous consequences unless the towns have the capacity to absorb the influx. In most of the big cities of the Third World we see the same spectacle of an unending stream of migrants from the villages in search of employment and living in slums in the metropolises. Obviously serious social and economic problems will develop when lakhs of people who had to live in thousands of villages scattered over a dozen districts converge on a city of, say, 200 sq. kilometres area. The infrastructure in these cities comprised of water supply, sanitation, housing, transport, law enforcement and other basic services, cannot withstand the tremendous pressures imposed by the burgeoning population. The quality of life in the cities steadily deteriorates. A stage may be reached when a city's growth becomes cancerous and ceases to indicate vitality.

3. Urbanisation is of-course not a phenomenon unique to India. A question may be raised whether urbanisation merits special study. In urbanisation important in its own light? Does it make sense to talk of a policy on urban development? The answer is provided by the following features of urbanisation in India :

- (a) The decennial growth rate of urban population in India from 1971 to 1981 was 46 per cent, which was much higher than the 19 per cent growth rate of rural population during the same period. For Karnataka the figures are an urban growth rate of 50.4 per cent and rural growth rate of only 18.7 per cent;
- (b) The growth rate of India's urban population accelerated from 37.9 per cent during 1961-71 to 46 per cent during 1971-81. The share of urban population in the total population rose from 20.2 per cent in 1971 to 23.7 per cent in 1981
- (c) The increase in urban population in India from 1971 to 1981 was almost 50 million. The increase itself is larger than the total urban population of any country, except China, the United States, the USSR, Japan and Brazil.

4. The increasing tempo of urbanisation means that more and more people will live in towns. Not only is the degree of urbanisation rising but in absolute terms also the size of the urban population is huge. It follows that we should give greater attention to the capacity of towns to provide employment and to the availability and quality of public amenities in towns.

5. The Sixth Five Year Plan noted that "the absolute size of more than 109 million people (in 1971) living in urban areas is large by any standards. Urban development therefore requires serious attention in its own right, though in the context of overall development planning".

6. Therefore the nature of the urbanisation process of great interest to planners and policy-makers. It is necessary first to have an understanding of the pattern of urbanisation. Then, appropriate urban policies must be designed. Perhaps, in the past not much attention was bestowed on policies for urbanisation, and instead the emphasis was on developing the agricultural sector and the industrial sector in terms of output and employment, without considering the shifts of population and the growth of urban centres which

would inevitably be induced by changes in the economic system. The spatial dimension of economic

policy and the structure of relationships between towns and their rural hinterland cannot be overlooked.

TABLE 1
Growth of Urban Population in Karnataka, 1901—1981

Year	No. of towns	Total Population	Urban Population	Percentage of Urban to total population	Percentage growth of urban population
1	2	3	4	5	6
1901	214	13,054,754	1,639,900	12.56	—
1911	180	13,525,251	1,563,772	11.56	4.64
1921	193	13,377,599	1,840,687	13.56	17.71
1931	210	14,632,992	2,239,134	15.30	21.65
1941	207	16,255,368	2,753,967	15.94	22.99
1951	285	19,401,956	4,453,480	22.95	61.71
1961	213	23,586,772	5,266,493	22.33	18.26
1971	227	29,299,014	7,122,093	24.31	35.23
1981	250	37,043,345	10,711,103	28.91	50.39

7. We shall now have an overview of the urbanisation pattern in Karnataka. From Table-1 we can see that the total population of Karnataka increased from about 13 million in 1901 to 37 million in 1981, an increase of 183.75 per cent. During the same period the urban population grew from 2.6 million to 10.7 million, an increase of 553.16 per cent.

8. With the share of urban population in the total population at 28.91 per cent. Karnataka ranks fourth in the country in the degree of urbanisation.

Percentage of urban population to total population 1981

INDIA	23.73
Maharashtra	35.03

Tamil Nadu	32.98
Gujarat	31.08
Karnataka	28.91

The decennial growth rate of urban population (1971–81) in Karnataka was also higher than the all-India growth rate of 46.02 per cent. The urban population of India registered a five-fold increase from 25.85 million in 1901 to 156 million in 1981 and during the same period the urban population in Karnataka grew by 553 per cent. Urbanisation in Karnataka has been fairly rapid and it accelerated sharply during the decade 1971–81.

TABLE 2
Number of Towns

Class of Town	1981	1971	1961	1951	1941	1931	1921	1911	1901
1	2	3	4	5	6	7	8	9	10
TOTAL	250	230	216	286	208	211	194	180	210
Class-I	17	12	6	6	4	3	2	1	
Class-II	11	9	9	6	5	3	4	3	2
Class-III	64	38	30	20	8	8	5	7	7
Class-IV	100	99	76	57	37	26	24	16	
Class-V	42	46	60	137	87	79	63	63	1
Class-VI	16	26	35	60	67	92	96	90	

TABLE—3

PERCENTAGE DISTRIBUTION OF URBAN POPULATION

Class of Towns	1981	1971	1961	1951	1941	1931	1921	1911	1901
1	2	3	4	5	6	7	8	9	10
I	58.60	51.32	41.37	36.40	30.46	24.18	18.53	12.12	9.95
II	6.46	8.40	12.76	8.73	12.10	9.52	15.33	13.62	12.65
III	17.75	15.38	15.95	13.26	8.58	11.95	9.54	15.79	14.04
IV	13.74	19.05	19.50	16.99	19.73	17.27	17.51	13.07	14.60
V	2.87	4.62	8.04	20.79	20.90	23.39	22.82	27.32	30.75
VI	0.58	11.23	2.38	3.83	8.15	13.69	16.27	18.08	17.99

TABLE—4

GROWTH OF POPULATION IN SIZE CLASSES OF TOWNS

Class of Towns	Percentage of decade variation							
	1911	1921	1931	1941	1951	1961	1971	1981
1	2	3	4	5	6	7	8	9
Class-I	19.14	78.64	58.95	55.14	93.31	34.25	67.87	42.06
Class II	2.63	32.55	24.48	56.37	16.65	70.38	-11.38	15.17
Class III	7.25	-28.92	52.46	-11.69	149.74	42.37	30.39	42.39
Class IV	14.62	57.74	19.95	40.54	39.26	35.69	34.19	6.35
Class V	-15.35	-1.69	24.74	10.26	61.60	-51.26	-24.25	-9.76
Class VI	-5.44	6.82	2.56	-98.20	-25.32	-26.60	-29.98	-2.03

9. Examination of the distribution of population between different size classes of towns and the growth trends in different size classes is quite essential to appreciate the shape and direction of the urbanisation process. Table-2 shows the number of towns in each size class at each from 1901 to 1981. The classes are defined below :

	Population
Class I Cities	Over 1,00,000
Class II	50,000 to 99,999
Class III	20,000 to 49,999
Class IV	10,000 to 19,999
Class V	5,000 to 9,999
Class VI	Less than 5,000

10. There was only one town with a population exceeding one lakh in 1901 and there are now 17 such towns. The number of Class VI towns has dwindled from 113 in 1901 to an insignificant 16. The largest number of towns (100) is in Class IV (10,000 to 19,999).

11. Table-3 shows the percentage of population in each size class to total urban population from 1901 to 1981. Table-4 shows the percentage variation of population in each size class. The most striking feature is that as much as 58.60 per cent of the entire urban population is concentrated in 17 cities in 1981. Bangalore has a population of 2.91 million as per the 1981 census. The other 16 Class I cities together account for nearly 3.37 million. The remaining 233 towns have a population of only 4.43 million.

12. Such an asymmetrical distribution of population began to develop after 1931. Till 1931 the variations in the shares of urban population for different size groups of towns were not large. After 1931 the share of Class VI towns began to fall sharply and continuously and the share of Class I cities rose steadily. Compared to all other classes, Class I cities have had the largest share from 1931 onwards and their share in the total urban population crossed 50 per cent in the 1971 Census.

13. There has been no trend of steady increase in the proportion of urban population accounted for by the Class II Towns. On the contrary, the share of these towns has declined from 12.76 per cent in 1961 to 6.46 per cent in 1981. Class II towns are towns in a transitional stage which attain the status of cities quite soon.

14. The contributions of Class III and Class IV towns have been increased considerably over the eight decades but nevertheless their shares are higher than those of all the other classes except Class-I. These two classes together accounted for 31.49 per cent of the urban population in 1981. In other words, 90 per cent of Karnataka's urban population lives in 17 cities with populations exceeding one lakh and in 164 towns with population in the range of 10,000 to 49,999.

15. The proportion of urban population in the Class V and Class VI towns has fallen precipitously. These towns are the smallest urban centres and they have become the least important.

16. Between 1931 and 1941 the Class I and Class II towns gained in population while the Class III towns lost population. The war of the late 1930s and early 1940s created employment opportunities on a large scale in the cities and large towns. During the decade 1941—51 there was a great spurt in the growth of urban population in the State. Class I cities experienced a tremendous growth of population during this period. Industrialisation began to gain momentum during this decade. Class III towns also exhibited accelerated growth partly because a number of Class IV towns had entered the class III category.

17. During the next decade the growth of cities was not as fast as during the 1941—51 decade. The number of cities doubled from 6 in 1961 to 12 in 1971, which rose further to 17 in 1981. These years experienced a massive expansion of the industrial sector as well major changes in other sectors of the economy, following upon enormous growth of government investment in independent India. However, after the reorganisation of States in 1956, Bangalore gained an enhanced status as the capital of the new State.

18. The bigger cities have dominated the urban scene in Karnataka. They have established themselves as industrial, commercial and educational centres and have the potential to keep growing. They are towns that are growing, that have already attained a fairly large size and that possess at least the minimum infrastructure and dynamic industrial and tertiary sectors, and these are the very features which attracts migrants as well as new investment, thereby stimulating further growth. Migrants move to the

big city not only from villages but also from small towns in the city's shadow zone.

19. At the other end of the urban spectrum the smallest towns with population below 5,000 do not appear to be viable urban centres. The Municipalities of such small towns are almost penniless and are incapable of providing basic amenities of an acceptable standard. Migrants and capital are not attracted to these towns, which are little better than villages. Young people leave these towns in search of employment elsewhere. Whatever growth takes place is almost entirely the natural growth of population. The growth rates of most of the Class VI towns declined during 1971—81.

20. The number of towns in the State has not increased significantly. Most of the urban growth can be attributed to the enlargement of existing towns rather than to the emergence of new towns. A similar pattern is observed in India as a whole.

21. There are wide variations in the degree of urbanisation in different districts of the State. Table 5 shows the total population of each district, the decennial growth rate of population (1971—81), the decennial growth rate of urban population, the proportions of urban and rural population to total population and the density of population. As expected, Bangalore district is the most urbanised district in Karnataka with 64.71 per cent of its population living in urban areas. It accounts for nearly 29.73 per cent of the total urban population of the State. 91.48 per cent of the district's urban population lives in Bangalore urban agglomeration. The decennial growth rate of Bangalore district's urban population over 1971—81

TABLE 5
HAETABLED

Sl. No.	State/District	Population		Decennial growth rate of population 1971—81	Decennial growth rate of urban population	% of rural and urban population to total population		Density of population per sq. km.
		Population	% of State population			Rural	Urban	
1	2	3	4	5	6	7	8	9
KARNATAKA		3,78,43,451	100.00	26.43	50.39	71.09	28.91	193
1. Bangalore		49,21,828	13.29	46.24	70.70	35.29	64.71	615
2. Belgaum		29,74,861	8.03	22.76	34.81	77.44	22.56	222
3. Bellary		14,87,062	4.01	32.46	61.09	66.98	33.02	150
4. Bidar		9,94,106	2.68	20.64	49.03	82.14	17.86	182
5. Bijapur		23,99,124	6.48	20.83	37.82	75.80	24.20	141
6. Chickmagalur		9,08,626	2.45	23.35	38.82	82.42	17.58	126
7. Chitradurga		17,74,717	4.79	27.00	47.57	76.47	23.53	164
8. Dakshina Kannada		23,73,359	6.41	22.38	47.76	75.82	24.48	281
9. Dharwad		29,39,988	7.94	25.52	40.47	64.74	35.26	214
10. Gulbarga		20,75,368	5.60	19.33	52.90	77.21	22.79	128
11. Hassan		13,51,923	3.65	22.64	32.73	85.83	14.67	198
12. Kodagu		4,60,164	1.24	21.64	22.10	84.43	15.57	112
13. Kolar		18,98,984	5.13	25.21	36.51	77.49	22.51	231
14. Mandya		14,14,383	3.83	22.52	38.41	84.46	15.54	285
15. Mysore		25,84,878	6.98	24.44	33.86	72.60	27.40	216
16. Raichur		17,79,942	4.81	25.73	57.92	80.71	19.29	127
17. Shimoga		16,57,564	4.47	27.36	38.46	74.33	25.67	157
18. Tumkur		19,75,331	5.33	21.36	42.80	86.22	13.78	186
19. Uttara Kannada		10,71,243	2.89	26.16	80.38	74.63	25.37	124

was the highest in the State after Uttara Kannada growth rate. The high growth rate in Uttara Kannada was caused by classification of five areas as urban in 1981. Five districts (including Uttara Kannada) can be said to high rates of growth of urban population.

22. The second most highly urbanised district is Dharwad its urban population at 35.26 per cent of its total population. Hubli-Dharwad is the second largest city in the State. This district is third in the degree of urbanisation (35.02 pc). Bangalore, Dharwad and Bellary are the only districts where share of urban population in total district population is more than the State average.

23. The density of population varies widely from one district to another. At the top of the scale in Bangalore district density of 615 persons per sq. km. At the other extreme in Uttara Kannada with 104 persons per sq. km. The State's average is 103.

TABLE 6

Sl. No.	Name of the City	Population (1981)	Growth rate	
			1961-71	1971-81
1	2	3	4	5
1.	Bangalore	29,13,537	37.82	76.17
2.	Hubli-Dharwad	5,26,493	52.59	38.86
3.	Mysore	4,76,446	40.11	33.96
4.	Bangalore	3,05,513	26.89	43.21
5.	Belgaum	3,00,290	45.70	40.41
6.	Gulbarga	2,18,621	49.98	50.16
7.	Bellary	2,01,014	46.12	60.58
8.	Davanagere	1,96,481	55.02	62.23
9.	Shimoga	1,51,562	61.08	47.56
10.	Bijapur	1,46,808	31.80	41.26
11.	K. G. F.	1,44,406	19.04	21.49
12.	Bhadravathi	1,30,159	54.10	38.42
13.	Raichur	1,24,600	26.06	56.08
14.	Gadag-Betageri	1,16,596	24.55	22.18
15.	Hospet	1,14,711	21.51	50.60
16.	Tumkur	1,09,231	49.07	64.49
17.	Mandya	1,00,264	116.31	39.00

24. The urbanisation pattern is not uniform throughout the State. There are significant variations in the spread, intensity and speed of urbanisation in different regions. This is also evident when we examine the growth of individual towns—of particular interest are the biggest cities with populations exceeding one lakh. Table 6 shows the population of the 17 biggest cities in Karnataka and their growth rate in the decades 1961—71 and 1971—81. Bangalore towers like colossus over all the other cities in the State. Its population is almost six times as big as the population of the next large city, Hubli-Dharwad. It achieved a spectacular growth of 67.17 per cent in 1971—81. Among the other cities, Bellary, Davanagere, Raichur, Hospet, and Tumkur experienced growth rates higher than

the rate of growth of the State's total urban population. The other cities also registered fairly high growth rates, except for K.G.F. Bhadravathi and Gadag-Betageri. The growth rates of Bangalore, Mangalore, Gulbarga, Bellary, Davangere, Bijapur, K.G.F., Raichur, Hospet and Tumkur were higher during 1971—81 than the growth rates during the preceding decade. The growth rates of Hubli, Dharwad, Mysore, Belgaum, Shimoga, Bhadravathi, Gadag-Betageri and Mandya fell during 1971—81. Detailed studies of individual towns are necessary to enable identification of the factors responsible for the variations in growth rates.

25. The urban settlement structure in Karnataka is top-heavy, with 58.60 per cent of the urban population living in 17 cities. Bangalore alone accounts for about 27 per cent of the urban population. There is considerable imbalance in the distribution of urban population. Disparities are visible also in the intensity of urbanisation in different regions. Only in three districts is the proportion of urban population to total population higher than the State average. Examination of the growth rates reveals the decline of very small towns, very rapid growth of Bangalore on the one hand and a fall in growth rates in some of the biggest towns in the State on the other hand and high rates of growth of urban population in only five districts. If the present trends continue, the degree of urbanisation will rise steadily. Increasing numbers of persons will shift from villages to towns and cities, and Bangalore will suck in a major share of the migrants.

26. The vast gap between the size of Bangalore and the size of the next largest city and the extremely high growth rate achieved by Bangalore are responsible for much of the imbalance in Karnataka's urbanisation pattern. Therefore, a more detailed examination of Bangalore's growth and its consequences is necessary.

27. Bangalore enjoys absolute urban primacy in the State. With a population of 29,13,537 according to the 1981 census, Bangalore is the fifth largest city in India. It had the seventh rank at the 1971 census.

Sl. No.	Name of the City	Population (1981)	Growth Rate (%)	
			1961—71	1971—81
1	2	3	4	5
1.	Calcutta	91,65,650	22.6	30.4
2.	Greater Bombay	82,27,332	43.8	37.8
3.	Delhi	57,13,581	54.6	56.7
4.	Madras	42,76,635	63.0	34.9
5.	Bangalore	29,13,537	37.8	76.2
6.	Hyderabad	25,28,198	43.8	40.7
7.	Ahmedabad	25,15,595	44.4	43.5

28. During the decade 1971—81 the city experienced the fastest growth in the country. Table 7 shows the growth of Bangalore from 1901 to 1981. The

City recorded its highest growth rate of 91.51 per cent over 1941—51. What is of greater interest to us is the astonishing growth rate of 76.17 per cent during 1971—81. The increase in the growth rate is very high, compared to other metropolitan cities. Incidentally, the increase in the growth rate of Calcutta was caused mainly by the inclusion of many new towns in Calcutta urban agglomeration. Bangalore, the fastest growing Metropolis in India, has been called a "boom town". Conservative estimates project the city's population at not less than six million by 2001 A.D. The main reason for the city's tremendous growth is the rapid industrialisation of the city and its environs and the expansion of the tertiary sector under the stimulus of industrialisation. Bangalore district has 31 per cent of the industrial units in the State and 48 per cent of industrial workers. Out of 332 large and medium industrial units in the State, 167 are in Bangalore district. These 107 units employ 1,78,000 workers as against the 3,00,000 workers employed in all 332 units in the State. The Industrial development at Hosur in Tamil Nadu, near Bangalore, has also contributed to the growth of Bangalore's population.

29. There is a very heavy concentration of industries in Bangalore district. This in turn has stimulated trade, transport and services. The Metropolitan Region's generation of income and employment is prolific. The sales tax collection in Bangalore City alone during 1982-83 was Rs. 192 crores, which was 56% of the total collection in the State. However, this high concentration of investment in Bangalore district has created an exacerbated regional imbalance. There is a tendency for new migrants and investment to keep following into Bangalore because of the innumerable advantages offered by a bustling, prosperous metropolis. This makes it difficult for other towns and regions to grow.

TABLE-7

Bangalore City Growth of Population 1901-1981

Year	Persons	% decade variation
1	2	3
1901 . . .	1,59,046	—
1911. . .	1,89,485	+19.14
1921. . .	2,37,496	+25.34
1931. . .	3,06,470	+29.04
1941. . .	4,06,760	+32.72
1951. . .	7,78,977	+91.51
1961. . .	1,99,931	+54.04
1971. . .	16,53,779	+37.82
1981. . .	29,13,537	+76.17

30. The Government also has to pump in huge sums of money for the maintenance and improvement of the infrastructure in Bangalore. To an important extent this denies other regions their full share of resources.

31. Bangalore's growth has been so fast that it is exerting enormous pressure on the city's infrastructure. The civic amenities are thoroughly inadequate. The most pressing problem is that of water supply. Bangalore gets a supply of 345 million litres of water per day, of which one-third is consumed by industries. The remaining 200 MLD permits a domestic consumption of 70 litres per capita per day as against the prescribed standard of 200 LPCD. If the population in 2001 is 7 million, the per capita daily consumption might be as low as 41 litres. There are definite constraints on increasing the quantum of supply because Bangalore is not located on the banks of a perennial river. Water is pumped to the city from the Cauvery river, 100 Kms. away and 1000 feet below the elevation of Bangalore.

32. *The Housing shortage* is growing more and more acute in Bangalore. The problem has been worsened by the failure of the Bangalore Development Authority to provide a large number of sites and houses to the public. The population living in slums is steadily increasing. Out of the slums identified by the Karnataka Slum Clearance Board in the State, at least 290 with a population of three lakhs is in Bangalore.

33. *The public transport system is inadequate.* The Bangalore Transport Service has about 900 buses. It is estimated that 1780 buses would be required in 1991 and 1100 buses in 2001 A.D. To make matters worse, the roads in Bangalore are too narrow to take an increased number of buses. With vehicle population growing at a tremendous pace, traffic congestion and road accidents have become commonplace.

	Total number of vehicles	% increase
1961-62	19,962	—
1971-72	50,393	197%
1981-82	1,96,969	231%

34. It is clear that Bangalore has become dangerously congested and it is necessary to take remedial action immediately. At present the situation is not irremediable. It is possible to bring down the growth rate and it is also possible to improve the level of civic amenities provided the necessary steps are taken without delay.

35. The Report of the Study Group on the strategy of Urban Development, set up by the Ministry of Works and Housing Government of India, contains the following observation :

"Today, much more than Calcutta, it is Bangalore which should make us sit up and think over the environmental and ecological problems brought about by reckless and uncontrolled migration and urbanisation in the garden city of Bangalore during the last ten years, a process, which is marked by massive inflow of capital as well as labour into the Bangalore region contributing to benefits accruing mainly to the new migrants, while imposing severe strains on the old resident population of Bangalore."

URBANISATION POLICY

36. The first step towards framing a meaningful urbanisation policy is to recognize that urbanisation is part of the general process of economic transformation. Urbanisation cannot be viewed in isolation. The growth of towns is influenced by changes in the rural economy, the location of industries, changes in mobility, the investment decisions of the Government and other economic changes. Secondly an urban settlement should not be viewed in a static way as merely a cluster of persons. Instead, its functions in a regional context should be studied.

37. The process of economic development involves an allocation of resources both sectorally and spatially. However, the spatial aspect normally does not receive proper attention. Too often the location of investments is decided in an adhoc and arbitrary manner, and long after the sectoral allocations are decided. The results are that maximum returns on the investments are not realised, regional imbalances persist and even grow and mutually beneficial rural urban relationships do not develop.

38. We should also realise that there are two sides in the matter of a town's development :

(a) Various amenities such as housing, water, transport, etc., have to be provided to the residents of the town, and (b) the town has certain economic functions that generates income and employment. It does not exist in vacuum but is situated in a particular region. Urban Development policy is not merely a matter of strengthening the infrastructure, vital though this is, but should also be designed to maximise the contributions of towns to the overall process of development.

39. The incessant flow of migrants to towns in search of employment means that a high priority should be assigned to the creation of employment opportunities in towns. With sustained generation of income and employment in the towns, resources will become locally available to finance upgrading the urban services or infrastructure. The absorptive capacity of the town or its capacity to accommodate migrants, both in terms of employment opportunities as well as in terms of urban infrastructure, will expand.

40. It might be argued that employment-generation in towns should be discouraged and conditions in villages should be improved. However, while agricultural development and the improvement of public amenities in villages should continue to get a high priority, it must be realised that growing prosperity in the rural areas will not arrest the increase of migration to urban centres. Hence the development of towns, which means the development of economic activity and infrastructure, is an inevitable task.

41. The urban planners should make an analytical study of each town and city in the State, with particular reference to its economic functions, its geographical position, its relationships with the surrounding villages and nearby towns, its resource endowments, its population characteristics and other economic and

geographical features. The planners will then be able to identify the role is being played by each town, the region within which it functions and its economic potential. With these basic data, a more rational approach to urban development becomes possible. For example, we may find that a particular town is best suited to function as a market centre for the agricultural produce of villages within a certain radius, and the establishment of an industrial estate in the town would be a wasteful investment. It would be possible to achieve the integration of physical planning and economic planning at the town level.

42. As industrial development is intimately linked with urbanisation, urban development policy and industrial policy should be co-ordinated. This is of particular importance in Karnataka where Bangalore's growth, triggered off by industrialisation, is creating problems for Bangalore and is aggravating regional disparities. A policy of industrial dispersal has been accepted for some time now with the objective of promoting growth in all regions. However, to be successful, such a policy has to be selective and precise. Instead of trying to scatter industries all over the State, a very limited number of centres which are regionally dispersed should be selected. Generous incentive should be offered to entrepreneurs to set up industries in these few centres and the infrastructure in these centres should be improved to the required extent. These towns should become regional growth centres.

43. If a large number of alternative industrial centre are declared by the Government and incentives are offered for all the centres, most industrialists will choose the locations nearest Bangalore. Second, the Government will find it impossible to develop the infrastructure in a large number of centres to the levels necessary to support industrial development. Third, it should be realised that all towns are not suitable for industrialisation. Industries tend to gravitate towards places where skilled labour, land, water, finance, housing and other facilities are available. It would be too costly to build in new facilities from scratch. Therefore, small towns would not be good choices for industrial centres. The positions occupied by towns on the transport networks are also important.

44. Hubli-Dharwad, Mysore and Mangalore would probably function well as industrial centres because they remain the largest cities in the State after Bangalore, are commercial centres, already have some large industries and have good communications and relatively good infrastructure. They are the towns which can act as counter-magnets to Bangalore. In the interests of regional balance, Gulbarga or Bellary, could also be developed as an industrial centre. Four major alternative industrial areas to Bangalore might well be special for the present. Development of many major centres would spread resources too thinly, and besides, the smaller places would attract very little investment, however much many the Government may pour in to improve facilities. However, there should be no restriction on new industries bringing up in other towns on their own.

45. Co-ordination of industrial planning and urban planning would mean that action can be taken in time to develop the infrastructure in towns to meet the demands opposed by industrialisation. The mistakes committed in the case of Bangalore need not be repeated.

46. Whenever it is proposed to locate a large industry institute or university in a town, an 'Urban impact statement' should be prepared as a matter of routine. The employment that would be created by the new organisation, both directly and indirectly, should be estimated. Then, how much out of this would be filled by local labour should be ascertained. The balance, along with their families, would represent the addition to the town's population. The additional demand for urban services of different kinds would then have to be calculated. It should also be kept in mind that a new large industry will attract various small industries and service units over time, and the effects of this process should be taken into account. Of course, the requirements of the industry of water, power, transport and other inputs for its direct consumption must also be ascertained.

47. No doubt certain kinds of industrial units such as steel plants, cement factories and mining industries, which must have easy access to raw materials, may be set up in places where there are no towns at all, and new townships are created for such industries. But apart from such cases, it would be futile to thrust the role of industrial centres on the small towns. Certainly agro-based industries should be encouraged in these towns. The role of the small towns in serving the rural interland and in promoting rural development should be emphasized. These towns act as market centres for agricultural produce, they supply the villages with various goods and they provide different types of services to the villages, such as workshops to repair farm machinery and hospitals to provide more specialised medical treatment than that available in primary health units. Some of the small towns also provide employment to migrants from villages. The linkages between the small towns and the villages should be strengthened.

48. For example, a town which functions as the main market for the surrounding villages may be made to perform its role more vigorously if more godowns and cold-storage centres are built or perhaps, if a new wholesale market yard is developed. Small industries such as processing units which use agricultural produce as inputs and servicing industries can be set up. A sugar factory is a good example of a relatively large industrial unit which can be set up in a small town and which procures its raw material from farmers. Industries which are not very sophisticated, which use locally available materials, apart from agricultural produce, such as wood or clay and which employ local labour should also be encouraged.

49. While building up the smaller towns, economic functions vis-a-vis the rural areas, we should not neglect the improvement of infrastructure in these towns. One can surely say that the standard of water supply, sanitation, housing and other elements of infrastructure in all the small towns is deplorable.

Serious efforts have to be made to raise living conditions in these towns by improving civic amenities. Expansion of economic activity in a town would generate more income, which would be a source of financing at least part of the development of infrastructure.

50. The Government of India has introduced a scheme for the integrated development of small and medium towns (IDSMT). Karnataka has taken up implementation of the IDSMT scheme in 16 towns whose population were below one lakh as per the census. The Government of India provides assistance for the following components only :

- (i) Land acquisition and development of residential sites and services;
- (ii) Construction of new roads and improvement of existing roads;
- (iii) Development of markets, godown and establishment of industrial estates; and
- (iv) Low cost sanitation.

The State Government has to provide a matching contribution. The total project cost in the 16 towns is Rs. 997.71 lakhs. So far Rs. 217 lakhs has been released but only about Rs. 94 lakhs has been utilised. The implementation of the programme, which is in the hands of the Municipalities has not been quite satisfactory.

The objective of the IDSMT scheme are to build up small and medium towns as growth and service centres and to curb the trend of migration to big cities. However, as pointed out in the report of the Study Group on the strategy of Urban Development, the scheme suffers from three major defects :

- (a) The selection of towns is ad hoc;
- (b) The dominant functions of selected towns have not been identified, with the result that the scheme is not, tailored to the needs of the individual town;
- (c) The emphasis is on improving infrastructure and not on developing the economic functions of the towns.

51. Considerations of city size are not very important. The main functions performed by a town and its economic potential are the considerations which should guide policy. In any case, in Karnataka there is only one very large city and this is also the only city whose growth causes concern. While the growth rate of Bangalore has to be brought down, the growth of all other class I cities should be encouraged, and at the same time the infrastructure in these cities should be expanded.

52. The urban development policy of the State should be based on an analysis and assessment of each urban centres functions, resources and potential. Except for a few towns which may be in a state of irreversible decline, each town can be made to contribute to the growth of its region. The hierarchy of settlements would be composed of the biggest cities on top

which would function as major industrial, commercial and educational centres (i.e. they would be multi-functional), intermediate towns which would have some industries and would also function as commercial centres and the small towns which would mainly act as market and service centres for the rural areas and would have small industries using local materials and labour. Of course, linkages exist between the largest cities and the villages also, as these cities provide employment to migrants from the rural areas as well as manufactured goods and skills to villages, and they are supplied with food by the villages.

We shall now focus on the question of a policy for Bangalore. However, it must be pointed out that a policy for Bangalore cannot be completely independent of the urbanisation policy for the State. If Bangalore's growth is to be restrained, then investment and labour have to be lured to other places, which would require the development of certain selected cities. Moreover, as Bangalore dominates the economic scene in Karnataka and contributes a major share of Government revenue, the speed and the quality of its growth have an impact on the entire State.

GROWTH OF POPULATION AND EMPLOYMENT AND SECTORAL DISTRIBUTION OF POPULATION :

The population of Bangalore Metropolitan area was 29.13 lakhs according to 1981 census. Bangalore was seventh largest City in the Country according to Census, 1971. According to 1981 Census it is the fifth largest City.

The growth of population of Bangalore has been studious with reference to growth of population of the Country and the State, urban population of the Country as well as the State, and the primacy of Bangalore in the State.

The total population of the country increased from 528.91 million to 658.14 million between 1971 and 1981 accounting to an increase of 24.43%. During the previous decade the increase was 24.5%. The population of the country has increased almost at the same rate as in the previous decade.

When the population in the urban areas are considered, the increase between 1971 and 1981 is 46.02% as against 37.91% in the previous decade 1961-71.

While the rate of growth of population of the country is almost the same during the last two decades, the urban population has increased at a higher rate compared to the previous decade. It is, therefore, evident that there is a trend for urbanisation in the country.

Comparing the growth of Class I cities with reference to the total urban population of the country, it is observed again that the rate of increase in the population of Class I cities was also at a higher rate compared to the previous decade. The increase in the total population of Class I cities between 1971 and 1981 was 56.83% as against 52.62% in the previous decade. It is, therefore, observed that not only the urban population is increasing at a higher rate but the population of Class I Cities is also increasing at a rapid rate which means that the cities are growing faster than the towns.

Coming to the population of the State, the population of Karnataka has increased from 29.30 million in 1971 to 37.04 million in 1981 showing an increase of 26.43% as against 24.22% during 1961-71. During 1951-61 the increase was 21.57%. The rate of urbanisation is increasing from decade to decade. Therefore, it is observed that both in the country as well as in the State, the rate of urbanisation during the recent decades is higher compared to the previous decades. Planning, should, therefore, be re-oriented for higher urbanisation rate in the country as well as in the State, especially the major cities.

The urban population of Karnataka has increased at a higher rate during 1971-81. The increase was 50.39% when compared to 35.23% of the previous decade. Urbanisation in Karnataka is therefore faster than the urbanisation in the Country as a whole.

The population of Bangalore City when compared to the urban population of the State, it is observed that 27.19% of the Urban population of Karnataka is in Bangalore itself while there are 250 urban centres in the State. During the previous decade population of Bangalore was 23.22% of the State's urban population. This shows the primacy of Bangalore in Karnataka State. There is, therefore, need for developing other major urban centres like Hubli-Dharwad, Mangalore, Mysore and Belgaum to relieve the pressure on Bangalore City.

TABLE

Year	Karnataka in Lakhs	%age in- crease	Metropol- itan area (in Lakhs)	%age in- crease	City Cor- poration (in lakhs)	%age in- crease	Metropolitan excluding Population	area Corporation %age in crease
1	2	3	4	5	6	7	8	9
1901	130.54	—	2.28	—	1.61	—	0.67	—
1911	135.25	3.6	2.60	14.5	1.92	19.2	0.60	1.5
1921	133.77	3.3	3.11	19.2	2.40	25.4	0.71	4.2
1931	146.32	9.4	3.96	27.5	3.08	29.1	0.88	23.9
1941	162.55	11.1	5.10	28.9	4.07	32.6	1.03	17.0
1951	194.01	19.4	9.91	94.9	7.79	91.6	2.15	108.7
1961	235.86	21.4	12.07	21.4	9.06	16.7	3.01	40.8
1971	292.99	24.2	16.64	37.0	14.22	56.9	2.32	22.2
1981	370.43	28.91	29.13	76.72	24.82	74.57	4.31	86

The population of Bangalore Metropolitan Area has increased from 16.54 lakhs in 1971 to 29.13 lakhs in 1981 adding a population of 12.59 lakhs during the decade. The population in the City Corporation areas has increased from 14.22 lakhs to 24.82 lakhs. In the Corporation area alone, a population of 10.6 lakhs is added. The population increase is therefore very enormous and the population added in the City

corporation area itself is equal to a metropolitan city. Regarding the growth of population outside the City Corporation area but including the BDA Extension area, the population increase was only 4.31 lakhs. The above figures show that the population has intensified in the Corporation area by intensified developments and that there is much scope for accommodating additional population in the BDA extension areas.

BANGALORE URBAN AGGLOMERATION

Sectorial Distribution of Population

Year	Total Workers	Cultivators	Agricultural labourers	Live stock forestry etc.	Mining & quarrying	Manufacturing processing servicing repairs Household Industry
1	2	3	4	5	6	7
1971	487920	3289	3115	3214	351	13069
Other than Household	Construction	Trade & Commerce	Transport & Communications	Other Services	Non-Workers	
162493	22609	89690	59685	130405	1165859	
8	9	10	11	12	13	

BANGALORE URBAN AGGLOMERATION

Sectorial Distribution of Population

Year	Total Workers	Cultivators	Agricultural labourers	Household Industry Manufacturing processing servicing & repairs	Other Workers	Marginal Workers	Non-Workers
1	2	3	4	5	6	7	8
1981	869439	8089	7851	23936	829563	14629	2037683

3. Special distribution of population and employment and its evaluation over the years :

The population density of 1981 shows high density of more than 400 persons per acre in the central area and on the western part of the city covering Rajajinagar. Densities from 300 to 400 are observed in a portion of Rajajinagar, M. R. Palya, Tannery Road, Hennur Road, Banaswadi Road, Ulsoor Area, Sampangiramanagar area, Shivajinagar area, Gandhinagar, Chamarajpet and Sudhamanagar.

Densities upto 200 are observed in the Cantonment areas and the extensions.

Densities upto 100 persons per areas are observed in the peripheral areas and in some areas within the City where big residential bungalows are existing.

4. Urban Infrastructure service, water supply, sewerage transport and others :

Bangalore, the fifth largest metropolitan City in India has acute traffic and transportation problems. The main problem is that of providing an efficient mass transportation system.

The number of vehicles registered Bangalore metropolitan area was 1,96,969 as on 31-3-1982.

The total number of vehicles during 1971-72 was only 59,393. The increase during the 10 years is 222%. Every year about 21,000 vehicles are added in the City. The number of vehicles in Bangalore are one for every persons.

During a period of 20 years, the mass transit trips per day has increased from 2.40 lakhs in 1961-62 to 10.16 lakhs trips in 1982-83 which works out to an annual growth of about 14%.

The total number of buses maintained by the B.T.S. has increased from 256 vehicles in 1961-62 to 922 in 1981-82 showing an increase by 3.6 times during 20 years. In spite of this increase in number of vehicles, the mass transportation situation is not good as the roads designed several decades back are carrying the present day traffic in spite of the tremendous increase in traffic.

Realising the need for improving traffic and transportation problems, the Department of Town Planning conducted comprehensive traffic and transportation

studies during 1964-65 in collaboration with the Central Road Research Institute, New Delhi. The study recommended improving the mass transportation by bus, reorganisation of bus routes, formation of ring roads and radial roads, widening of roads, creation of parking lots etc. The study also recommended a ring railway for Bangalore City as it was found that bus transportation may not cater to the heavy demand for mass transportation in the City. Several of these recommendations were implemented by the local agencies.

The Government of Karnataka Constituted a Traffic Cell in the Department of Town Planning to undertake comprehensive traffic and transportation surveys and analysis. The Traffic Cell conducted comprehensive traffic and transportation surveys like; the Origin-Destination surveys, 5% sample Socio-Economic Survey of households; Mass Transportation Survey covering both buses and railway, speed and delay survey etc., and several reports explaining the problems have been prepared after analysis of the data by the Karnataka Government Computer Centre.

Rapid Transit System

In view of the acute mass transportation problems and realising that it is not possible for the B.T.S. to cater to the very heavy demand for mass transportation, the Government of Karnataka entrusted to the Railways the Techno-Economic Feasibility Study for provision of a mass rapid transit system for Bangalore City. The metropolitan Transport Project (Railways), Madras conducted the study in consultation with the B.D.A., taking into consideration the development of Bangalore upto 2001 A.D. for a population of 70 lakhs.

The Study was completed and the Techno-Economic Feasibility Study Report was presented by the Union Minister of State for Railways to the Chief Minister of Karnataka on 12-9-1983.

The proposals of the Study are as follows :—

A. Suburban Electrified System

- (1) Bangalore—Whitefield
(23.13 km)
- (2) Bangalore—Kengeri
(12.35 km)
- (3) Bangalore—HMT
(18.75 km)

B. Circular Railway (Ring Railway)

Banaswadi Road—
Jalahalli—
Banaswadi Road
(57.94 km)

C. Rapid Transit System

- (1) North-South Corridor
Rajajinagar to
Jayanagar
(12.20 km)
- (2) East—West Corridor
Hudson Circle to
Krishnarajapuram
(11.230 km)

The above proposals are to introduce broad gauge suburban system utilising the existing Madras Railway line, Tumkur line and the Mysore line with broad gauge electrified system.

The second proposal is to introduce Circular Rail System utilising a portion of the existing Salem railway line from Jalahally to Banaswadi and the existing HAL line from Madras line to HAL and to form new broad gauge circular railway to cover the following points :

1. Byappanahalli
2. Indiranagar
3. Vibhuthipura
4. Marathahalli
5. Kariyamma Agrahara
6. Belandur
7. Ambulipura
8. Agara
9. Koramangala
10. Hosur Road
11. Madiwala
12. Bannerghatta Road
13. Jayanagar
14. Banashankari
15. Writers Colony
16. Remco
17. Vijayanagar
18. Magadi Road
19. Peenya South
20. Peenya North
21. Jalahalli
22. B.E.L.
23. Rajamahal Vilas Extn.
24. Hebbal
25. Tannery Road
26. Lingarajapuram

The third proposal is to introduce Rapid Transit System from Rajajinagar to Jayanagar and from Krishnarajapuram to Jayanagar via. Hudson circle, Rajajinagar to Jayanagar route will cover Rajajinagar, Prakashnagar, City Railway Station, Race Course, K. R. Circle, Hudson Circle, City Market, Siddaiah Circle, Jayanagar and J.P. Nagar. The rapid transit route from K.R. Puram to Jayanagar covers Old Madras Road, Indiranagar, Dickenson Road, Brigade Road, Central Street, Cubbon Road, M.G. Road, Hudson Circle, City Market, Siddaiah Circle and Jayanagar. These proposals are planned on a phased programme and will be taken up in the railway budget with active assistance from the State Government. The Southern Railway has already forwarded proposals to the Railway Board for allocation of funds for this project.

The B.D.A. has incorporated the proposed alignments in this Comprehensive Development Plan. The B.D.A. as well as the B.C.C. will have to control building operations to see that the proposed alignments are not affected due to indiscriminate building activities and sufficient margin is provided for introducing rail facility without any problems.

The Government of Karnataka has constituted a High Level Committee with the Minister for Urban Development as the Chairman with several Secretaries to Government, departmental heads, and heads of local agencies as members.

If the railway mass transportation system is introduced and the full system of ring roads are developed, the people of Bangalore will have relief from the traffic and transportation problems.

Utilities and Services

(A) Water Supply :

Chamarajandra Water Works was the first scheme of protected water supply to Bangalore undertaken in the year 1894 A.D. The sources of water supply for this scheme was Arkavathi River with reservoir at Hesaraghatta. The scheme was designed for a population of 2,50,000 providing 12½ gallons per capita. It was anticipated that the supply would be sufficient to meet the city's needs for three decades, that is upto 1921. Later, the supply of water became inadequate for the growing population of Bangalore and a scheme with reservoir at Thippagondanahalli was designed. In this scheme, the first phase was designed in 1928 to provide a supply of 6 million gallons at the rate of 20 gallons per capita for a population of 3 lakhs. The population of Bangalore in the year 1933 was about 3,40,000 and the available water supply schemes could supply only 16 gallons per capita. The second stage of Thippagondanahalli water works was taken up and a total supply of 26.51 MGD of water supply was available to the city apart from 0.85 MGD water from Hesaraghatta. This supply was for a population of 15 lakhs at the rate of 18 gallons per capita including supplies to industrial concerns, public parks, etc.

The rapid increase of population in the Bangalore Metropolitan Planning Area necessitated formulation of bigger schemes of water supply and the Cauvery project at a cost of Rs. 300 million in the first stage and an additional Rs. 300 million for the II stage was taken up. The cost of the first stage scheme is revised to Rs. 357 millions. The project is being executed by a special agency called the Bangalore Water Supply and Sewerage Board since 1964. Even after commissioning of the second stage project the supply of water will be far below the national standard. The Board has therefore proposed to take up the 270 MLD Cauvery Water Supply Scheme. Stage III estimated to cost about Rs. 240 crores.

The present capacity of all the water supply installations is 290 MLD which works out to 85 litres per capita. The desirable supply is 200 litres per capita.

But in view of the shortage in the water supply resources, it is only possible to supply 85 litres per day.

The requirement of water upto 1991 and 2001 has been studied and supply of atleast 100 litres per capita is worked out. The total supply required for 45 lakhs population by 1991 will be about 450 MLD and by 2001 about 700 MLD i.e. 2.41 times the present supply.

For the additional requirement of 410 MLD by 2001, the Cauvery II Stage will cover 155 MLD and III Stage 270 MLD which is just enough if the population growth is according to the projections now made.

(B) Sewerage :

The City area is covered by 3 natural valleys. Koramangala and Vrishabhavathi valleys and major valleys draining the entire old city and a portion of civil and military area on the south eastern and south-western sides, separately. The Challaghatta valley drains exclusively the greater part of civil and military area.

Nearly 90% of the city area and 75% of the Cantonment area are covered by the sewers. The Corporation has made several improvements by providing duplicate sewers to handle increase in sewage in several areas of the city consequent upon the development of the area and increase in the density of population. The total area served by the sewer is more than 230 sq. kms. (90 sq. miles). With the rapid increase in population the schemes proposed from time to time for disposal and treatment of the city sewage are getting out of date. Steps have been taken to convey sewage beyond the built up area of Bangalore and for effective treatment.

Government constituted a special committee in 1951 to study the problems of sewage. Later on, a working group was constituted in 1958 to give modified recommendations for Bangalore Water Supply and sewerage disposal schemes. The working group suggested treatment and disposal methods for each of the 3 natural valleys. The proposal for Vrishabhavathi valley was to provide a 36" outfall sewer upto the Government Electric Factory and to install a primary treatment plant at the tail end. It was suggested to utilise the effluent for irrigation of about 640 hectares of land available round about. The proposal for Challaghatta valley was for treatment of the sewage and utilising the effluent to irrigate 60 hectares of land and allowing the remaining quantity into Challaghatta Tank to find its way into the natural course.

The Bangalore Water Supply and Sewerage Board was constituted by Government on 1-10-1964 under the Bangalore Water Supply and Sewerage Board Act, 1964. The Bangalore Water Supply and Sewerage Board is charged with the responsibilities of operating and maintaining the entire water supply installation and sewerage system of the Metropolitan Area. The cost of the first stage sewerage system is Rs. 30 million and the second stage another Rs. 30 million. Apart from the general system of sewerage maintained by

the Water Supply and Sewerage Board, in the extensions where B.D.A. schemes are implemented, branch sewers are laid by the B.D.A.

The present capacity of the sewerage treatment installations is as follows :—

Koramangala and Chellaghatta valleys	36 MGD
Vrishabhavathy valley	27 MGD
Total	63 MGD

The total capacity including the proposed expansion is as follows :

Koramangala and Chellaghatta Valley	48 MGD
Vrishabhavathi Valley	40 MGD
New scheme from Hebbal zone	88 MGD
	11 MGD
	99 MGD

The Bangalore Water Supply and Sewerage Board may have to take up suitable action to implement sewerage schemes required for the proposed population for the years 1991 and 2001.

C. Compost Plant :

The Karnataka State Agro Industries Corporation has taken up Rs. 95 lakhs compost plant at Koramangala. This plant will be maintained by the Agro Industries Corporation in collaboration with the Municipal Corporation. The Central Government subsidy for this project is Rs. 36 lakhs and share of Rs. 25 lakhs in the investment. Funds are also raised from the financial institutions. The City's garbage is used as raw material and the compost plant will produce 200 tonnes of compost per day and 39600 tonnes annually.

D. Power :

The total electric power available in the State during 1970-71 was 4226 million units which increased to 5196 in 1973-74 and 6186 in 1974-75. The energy availability and requirement in the State for the years 1975-76 to 1978-79 were as follows :

	1975-76	76-77	77-78	78-79
Requirement in million units	6,780	7,560	8,290	8,760
Available	4,626	4,626	5,196	6,186

The following are the details of electric power available and energy required in the State as well as Bangalore during 1982-83.

	Karnataka State	Bangalore
1. Electric power available in 82-83	1739.0 M.U.s.	335 M.U.s.
2. Energy required in for 82-83	10201 M.U.s.	1965 M.U.s.

E. Telephones :

It is observed that the Bangalore Telephones is not able to provide telephones according to the present demand in Bangalore City. There is acute shortage in the provision of telephones. The number of telephones in Bangalore as on 31-1-1983 was 61,896 covering a population of about 30 lakhs. The minimum requirement of telephones upto the year 1991 is about one lakh and about 1.5 lakh by 2001. The Bangalore Telephones may have to work out programmes for achieving this target.

5. Shelter situation including current state of housing stock annual accretion of formal and informal housing stock :

Housing :

1. Housing is an important aspect of any town or city. Unless proper housing is provided the City cannot function efficiently. A study of problem of housing in Bangalore revealed that the number of houses according to the 1971 census is 2,45,057 for a population of 16.54 lakhs in the metropolitan area of Bangalore. The increase in the number of houses between 1961-1971 was 1,02,757 with a shortage of about 47,000.

2. The population of Bangalore according to 1981 Census was 29.13 lakhs. As the census figures on housing is not yet available the number of houses during 1981 and the number of houses required during the design years 1991 and 2001 AD have been worked out based on assumptions according to the trend of population growth and provision of housing etc. The following table shows the population, number of houses, increase in number of houses, provision of houses, and shortage.

Year	Population in lakhs	Houses	Increase or Regd. No. of Houses	Provision	Shortage
1	2	3	4	5	6
1951	9.81	84,549	—	—	—
1961	12.07	1,42,300	57,751	—	—
1971	16.54	2,45,057	1,02,757	—	47,000
1981	29.13	4,71,573	2,26,816	1,75,000	51,316
1991	45.00	6,93,000	2,21,127	2,00,000	46,127
2000	70.00	10,25,000	3,32,000	2,25,000	1,07,000

3. The total No. of houses required for the projected population of 45 lakhs in the year 1991 will be about 6,93,000 and 10.25 lakhs for a population of 70.00 lakhs in the year 2001. It will not be realistic if assumptions are made to show that there will be no deficit in the housing. Housing deficit will continue inspite of the best efforts of the local developing agencies and the objective should be to gradually improve the housing situation compared to the population size.

4. The agencies involved in the provision of housing are the Karnataka Housing Board, Bangalore Development Authority, Karnataka Slum Clearance Board, Bangalore City Corporation, housing societies and housing by the general public.

The Bangalore Development Authority has a programme of providing houses to the E.W.S., LIG, MIG and HIG.

5. The erstwhile City Improvement Trust Board, Bangalore from its inception (26-1-1945) formed 65 layouts of which 54 were completed and handed over to the Bangalore City Corporation for maintenance. The BDA has at present 32 new schemes for layouts covering an area of 6000 hectares at a cost of 83.36 crores to provide 92,818 sites so as to meet the demand under all categories. These layouts are in different stages of progress.

6. Seven housing schemes at an estimated cost of Rs. 506.43 lakhs was taken up by the BDA, to provide 3625 flats, out of which 1850 flats are for the E.W.S., 1458 flats for the LIG and 317 for the MIG. The schemes are :

- | | |
|-----------------------|-----------|
| 1. Austin Town | I Stage |
| 2. Austin Town | II Stage |
| 3. Austin Town | III Stage |
| 4. Domlur | I Stage |
| 5. Domlur | II Stage |
| 6. Kallahalli Scheme | |
| 7. Kumaraswamy Layout | |
| Housing Scheme | |

7. A loan assistance of Rs. 364.10 lakhs was obtained from the HUDCO, New Delhi. All the 826 flats in multi-storied buildings at Austin Town I Stage, 236 flats at Domlur II Stage were completed and allotted.

8. A scheme for providing 158 flats at Kallahalli has been taken up and is in progress.

9. To provide sufficient number of houses, the BDA, has taken up three self financing schemes to cover LIG, MIG, and HIG houses at a total cost of Rs. 33.35 crores. The proposed number of houses in these schemes are as follows :

1. LIG	558 houses
2. MIG	946 Do.
3. HIG	980 Do.

2484 houses

10. These houses under the self financing schemes are proposed in the BTM—Layout, Nandini Layout and RMV II Stage Layout. The Houses proposed in RMV II Stage are for HIGs. The schemes at BTM and Nandini are under progress, and the

schemes at the RMV II Stage is being taken up shortly.

11. There are about 400 slums in Bangalore with a population of about 2.00 lakhs.

12. The number of slums on BDA, lands are 64. The BDA has allotted 60 acres of land in Nandini Layout to the Karnataka Slum Clearance Board for re-habilitating the slum dwellers. the BDA, is also re-habilitating slum dwellers in the BDA, area by providing small sites in several layouts and also providing developed plinth and houses in Kumaraswamy layout. The HUDCO is financing the scheme for rehabilitation of slum dwellers taken up at Kumaraswamy Layout.

13. A scheme for the construction of 1000 houses for the benefit of Economically Weaker Sections was taken up by the BDA, and has been completed. Assistance of HUDCO was obtained for the scheme costing Rs. 60.00 lakhs. 1000 more houses are proposed in the same area for the benefit of economically weaker sections at a cost of Rs. 60 lakhs with financial assistance from the HUDCO.

14. The BDA, is also providing platforms at KMRSL free of cost for housing the EWS.

15. It is programmed to provide about 3000 small sites to the EWS, free of cost in the schemes of the BDA, like the BTM scheme RMV II Stage and the schemes near Hennur—Road—Banarwadi Road Layout. So far the BDA has allotted 1000 sites in BTM scheme, 178 in RMV II and 150 sites in BSK II Stage.

16. Earlier there was a provision in the BDA Act that the KHB should not take up housing in the Bangalore Metropolitan Area. Later, this was amended to provide for housing by the KHB, subject to conformity with the development plan of the BDA. It is desirable that the KHB takes up a number of housing schemes in the Bangalore Metropolitan Area to meet the demand for housing in Bangalore. Apart from the on going schemes at Yelahanka, KM Layout, Agrahara Dasarahally, a few more schemes are being proposed by the KHB in Bangalore.

17. According to the present growth of the City, 1.50 lakhs population is added to the City every year, for which 30,000 sites/housing units are to be provided. Assuming that 50% of the requirement will be met by the Karnataka Housing Board, Government Departments, Public Sector undertakings the housing societies and the public, the Bangalore Development Authority will have to form atleast 15,000 sites/housing units per year to meet the situation in the future. Every year 1230 acres of land is to be developed by the Bangalore Development Authority, the extent being gradually increased.

As there is heavy demand for the developed residential sites in the Bangalore Metropolitan Area in view of the rapid growth of Bangalore, the Bangalore Development Authority also permits development of layouts by the housing societies. A number of housing societies are functioning in the Bangalore

Metropolitan Area and are contributing to the provision of developed house sites to their members. These layouts are approved by the Bangalore Development Authority according to the standards of the Bangalore Development Authority under the supervision of the BDA Engineers.

The Bangalore Development Authority will take up large scale land acquisition and development programmes to meet the demand for sites.

Note :

B.D.A	—	Bangalore Development Authority
KHB	—	Karnataka Housing Board
RMV	—	Rajamahar Vilas
B.T.M.	—	Bangalore Tavarekere Madivala
B.S.K.	—	Banashankari
K.M.	—	Koramangala
KMRSL	—	Kumaraswamy Layout

6. Legal and administrative framework for urban planning and Management.

Karnataka Town and Country Planning Act 1961, came into force from 15-1-65. It provides for the constitution of Town Planning Authorities for the preparation of Outline Development plan, Comprehensive Development Plan and for taking up of Town Planning schemes in the areas within their jurisdiction. It also provides for creation of State Town Planning Board with the Minister in-charge of Town Planning as Chairman and Director of Town Planning as Member-Secretary for advising the State Government regarding planning and development for determining principles and policies for achieving the balanced development of the state as a whole.

8. Planning Strategy.

Formal planning strategy adopted, if any covering various aspects such as land-use and transport policy, employment location policy, land policy etc.

The Government of Karnataka has constituted a committee on urbanisation in Karnataka (Sub-group of economic & planning Council) under the Chairmanship of Dr. Charles M. Correa for the purpose of evolving an urbanisation policy for Karnataka. The Committee has submitted an interim report to the Government for consideration.

9. Problems encountered in implementation of the accepted planning strategy.

There is lack of co-ordination among the agencies concerned in Development activities such as Development Authorities, City Improvement Boards, City Improvement Trust Board, Municipal Corporations, Municipalities, village Panchayats, Revenue Authorities, Karnataka Industrial Area Development Board, Karnataka Housing Board, Karnataka Electricity Board, Telephone Department, Bangalore Water Supply and Sewerage Board, Karnataka Urban Water Supply and Drainage Board, Karnataka Slum Clearance Board etc.

2. Financial constraints for acquisition and development as per plan proposal.

It must be emphasised that the objective should not be to arrest the growth of Bangalore or to achieve a zero growth rate, and certainly not to cause the decline of Bangalore (a negative growth rate). Such a policy would have disastrous consequences for the State. The aim should be to reduce the growth rate of Bangalore, so that the city keeps growing but not at a terrific speed. Theoretically it is possible to compute an optimum growth rate or phasing of growth rates for Bangalore on the basis of the capacity of the infrastructure and the extent to which the infrastructure can be expanded, keeping specified financial constraints in view. Obviously there are also physical constraints on the expansion of infrastructure. For example, water supply to Bangalore cannot be increased indefinitely :

APPENDIX XVII

Present and Potential Agricultural production in Karnataka in respect of Rainfed Crops and the gap in Productivity and production

Sl. No.	Crops	Area rainfed in '000 hect.	Present productivity in kgs/hect.	Present estimated prodn. in lakhs tons	Potential productivity in kgs/hect.	Potential prodn. in lakhs tons.	GAP	
							Productivity in kgs/hect.	Production in lakh tons.
1	2	3	4	5	6	7	8	9
1.	Rice	411.00	1500	6.17	21.00	8.63	600	2.46
2.	Jowar	2410.00	626	15.09	2000	48.20	1374	33.11
3.	Ragi	951.00	1311	12.47	2000	19.02	639	6.55
4.	Bajra	355.00	493	1.76	1500	5.33	1002	3.57
5.	Maize	191.00	2848	5.49	3800	7.26	952	1.77
6.	Wheat	203.00	460	0.90	1000	2.03	540	1.13
7.	Minor Millets	190.00	484	0.93	1200	2.28	716	1.35
I.	Total Cereals	4711.00	908	42.81	1963	92.75	1060	49.94
II.	Total Pulses	1364.00	414	7.72	1030	19.57	636	11.85
III.	Total foodgrains	6575.00	768	50.53	1703	112.32	939	61.79
IV.	Total Oilseeds	1719.00	616	10.50	1200	20.63	584	10.13
V.	Annual Crops ;							
1.	Cotton	915.00	102	0.93	200	1.83	93	0.90
2.	Tobacco	48.00	650	0.31	1000	0.43	350	0.17

Note : The figures of productivity used in the booklet on "Package of Practices for High Yields" are taken for the purpose of working out the potential production in respect of different crops.

The Government should make every effort to have at least the new major industrial unit, whether private sector or public sector, located in each of these cities because a major industry stimulates the growth of various ancillary industries and also of trade and services. The infrastructure has to be developed in a big way. Very attractive incentives should be offered to persons who start industries in these centres.

38. As far as other towns are concerned, they will not be as attractive to new industries as the major centres but nevertheless some new industries would come up in the other towns also. This should be encouraged, though the Government would not be able to provide as many resources for the development of these towns as for the major industrial centres. The industries that would come up in these towns would mostly be ones that obtain their raw materials locally such as oil mills, paper mills, mineral industries, etc.

39. It may be noted that the *policy of industrial disposal has met* with some measure of success in Maharashtra. The growth rate of Bombay fell during 1971-81 but the growth rates of cities like Nagpur, Nasik, Aurangabad and Parbhani have increased substantially.

40. Some have argued that Bangalore is not only an industrial city but also an administrative and educational centre, and therefore its growth can be controlled also by shifting offices and institutions out of Bangalore. However, shifting offices out of Bangalore would be very expensive and would create numerous administrative problems. The costs would outweigh the gains. We have not even suggested shifting industrial units. However, just as new large industries should not be permitted in Bangalore, new large institutions, except hospitals, need not be encouraged.

61. Can the small towns near Bangalore help to lessen the pressure on Bangalore? We cannot really expect the small towns like Ramanagaram, Hoskote or Anekal to become counter-magnets to Bangalore. They are too puny to compete with the metropolis. They could function as satellite towns in the sense of dormitory towns, i.e., persons would reside in the small towns and commute to Bangalore for work. This would reduce congestion in Bangalore to some extent (in residential areas) but on the other hand, more housing and other facilities would have to be provided in the small towns. It may be more economical to provide these additional amenities in Bangalore itself.

62. A possible danger of a policy of banning new industries in Bangalore is that the existing industries would become obsolescent in the course of time and would not be replaced by new industries. This would result in a decline in economic activity and the city may begin to decay, like Calcutta and Bombay. It may not be wise to shut out new investment which also brings new technology. Hence a long-term policy for Bangalore should provide for

the continued growth of economic activity. The ban on new large industries need not be a permanent feature of policy but can be revised after the growth rate is lowered to a reasonable level.

63. Charles Correa has suggested that Bangalore could be developed as a metropolitan office centre similar to Bombay, where a large number of companies would have their head offices. This would guarantee the future economic well-being of the city even if the number of new industries is reduced to a trickle. This may also lead to the establishment of new industrial units in Karnataka as many of the companies would prefer to locate their factories not far away from their head offices. More income tax would also be realised in Karnataka if Company head offices come to Bangalore.

64. However, while Bombay is undoubtedly congested, very few companies which have their registered offices in Bombay may be willing to shift to Bangalore as they may that the costs of relocation would be worthwhile. In any case the Government will have to offer incentives if it wishes to attract a large number of company offices in Bangalore, such as land in Central areas for office buildings. In Bangalore hardly any land in central area is available with the Government and what is available would be required for Government use.

65. Perhaps as living conditions continue to deteriorate in Bombay and Calcutta, companies will start flocking to Bangalore on their own without any persuasion by the Government. After all Bangalore enjoys the reputation of being a good place to live in.

66. Apart from measures to bring down the growth rate of the metropolis, action is also required to improve the level and quality of services in Bangalore and to plan the location of residential colonies, workplaces, educational and recreational centres in a more scientific manner. To the extent physically possible, the city would have to be reshaped or restructured.

67. The point is that even if Bangalore's growth is brought down considerably, the city would still grow and the additions to population would be large in absolute terms. The city has to accommodate the additional population and the existing structure of Bangalore is not designed to cope with increasing pressure.

68. A model proposed by Charles Correa envisages the establishment of a linear corridor between ITI and HMT (an East-West axis) and a North-South line connecting the existing city centre to the East-West corridor. The point at which the North-South

The third class of forests include those tracts which though true forests, produce only the inferior sorts of timber, or the smaller growths of the better sorts. In some cases the supply of fuel for manufactures, railways, and like purposes, is of such importance that these forests fall more properly under the second class, and much be mainly managed as commercial undertakings. But the forests now to be considered

are those which are useful chiefly as supplying fuel and fodder or grazing for local consumption; and these must be managed mainly the interests of the population of the tract which obtained its forest requirements from this source.. The first object to be aimed at is to preserve the wood and grass from destruction; for user must not be exercised so as to annihilate its subject, and the people must be protected against their own improvidence. The second object should be to supply the produce of the forest to the greatest advantage and convenience of the people. To these two objects all considerations of revenue should ordinary be subordinated.

It must not be supposed from the preceding remarks that it is the intention of the Government of India to forego all revenue from the large areas that are valuable chiefly for the fuel and fodder which they yield. Cases must be distinguished. Where the areas in question afford the only grazing and the only supply of fuel to villages which lie around or within them, the necessities of the inhabitants of these villages must be treated as paramount, and they should be satisfied at the most moderate rates and with as little direct official interference as possible. But where the villages of the tract have already ample pasture grounds attached to their cultivation and owned and managed by themselves and where the Crown lands merely supplement these pastures, and afford grazing to a nomad pastoral population, or to the herds that shift from one portion of the country to another with the changes of the season, Government may justly expect to reap a fair income from its property. Even in such cases, however, the convenience and advantage of the graziers should be studiously considered, and the inhabitants of the locality, or those who habitually graze over it, should have a preferential claim at rates materially lower than might be obtained in the open market. It will often be advantageous to fix the grazing demand upon a village or a nomad community policies for the State, and at the same time to co-ordinate the policies with policies on different economic sectors and social welfare activities. This body could be a Cabinet Sub-Committee, aided by representatives of different Government departments. Alternatively, the State Town Planning Board, which is constituted under the Karnataka Town and Country Planning Act of 1961, could be strengthened and entrusted with greater authority to enable it to play an active and effective role.

71. In view of Bangalore's importance an authority must be created to deal with the planned development of the Metropolitan Region. At present the Bangalore Development Authority is the statutory

Planning Authority for Bangalore. However, the BDA has largely neglected its planning function and has concentrated on land development. Even the planning is mostly physical planning with the emphasis on zoning of land-use. The economic aspects of the region's growth are neglected.

72. The Government has created a statutory body known as the Bangalore Metropolitan Region Development Authority. This body would prepare a plan for the comprehensive development of the entire Bangalore district as well as proposals for specific projects. The Authority would exercise control over important developments in the Region. It would co-ordinate the functioning of the B.D.A., the Bangalore Water Supply and Sewerage Board, the Bangalore City Corporation, the Slum Clearance Board, the Housing Board and other agencies and would have the power to give them directions. The Chief Minister would be the Chairman of the BMDA and the Urban Development Minister the Vice-Chairman. This would give the Authority considerable clout and prestige.

HUBLI

2. GROWTH OF POPULATION AND EMPLOYMENT & SECTORIAL DISTRIBUTION OF EMPLOYMENT

Hubli City which had a population of only 59913 in 1901 has increased to 3,53,007 in 1981. The increase of population from 1901 to 1921 was rather slow and in these 20 years the increase is only 6859. The period from 1921 to 1941 shows rapid growth of population and in 20 years the population growth was 28,740. The total population of Hubli was 95,512 in 1941. In the period from 1941 to 1981 population rise was faster due to industrialisation and starting of many educational institution. The total increase of population in 40 years is 2,57,495. The details of yearwise population is as follows :

Year	Persons
1. 1901	58,913
2. 1911	61,440
3. 1921	66,772
4. 1931	83,494
5. 1941	95,512
6. 1951	1,29,609
7. 1961	1,71,326
8. 1971	2,49,170
9. 1981	3,53,007

The sectorial distribution of employment in the years 1971 and 1981 for Hubli & Dharwar is given in Annex-I & II.

ANNEXURE I

Hubli Dharwad Corporation Occupational Structure

Year	Total Workers	Cultivators	Agricultural Labourers	Live stock forestry etc.,	Mining & quarrying	Manufacturing processing Servicing repairs	
						House hold Industries	Other than Household
1	2	3	4	5	6	7	8
1971	105804	6179	9364	820	234	4279	18459

Construction	Trade and Commerce	Transport & Communications	Other Services	Non-Workers
9	10	11	12	13
4939	20726	28202	22602	273362

ANNEXURE---II

Hubli Dharwad Corporation Occupational Structure

Year	Total Main Workers	Cultivators	Agricultural labourers	Household Industry Manufacturing Processing Servicing & Repairs	Other Workers	Marginal Workers	Non-Workers
1	2	3	4	5	6	7	8
1981	146941	8761	11702	6207	120271	2964	377203

Question 3 :—

3. SPATIAL DISTRIBUTION OF POPULATION AND EMPLOYMENT AND ITS EVOLUTION OVER THE YEARS REPRESENTED THROUGH APPROPRIATE MAPS

Some pockets of Durgada bail of Old Hubli city have the highest density of 500-150 persons per hectare. The lowest density of 100-125 persons per hectre prevails in Ashoknagar, K.M.C. Medical College area, Keshavapur villiage area.

The pockets on the eastern side bus stand of Old Dharwad City have the density of 375-500 persons per hectare. The lowest density of 100-125 persons per hectare pervails in Malamaddi, Sudankere areas.

HUBLI

4. URBAN INFRASTRUCTURE SERVICES—WATER SUPPLY, SEWERAGE, TRANSPORTATION & OTHERS

The most essential utilities and services required for 7 city are :

1. Protected water supply
2. Sewage disposal
3. Electricty

Hubli city has all these utilities and services.

7.1 Water supply :—

In the beginning the water source for Hubli-Dharwad city was Unkal tank. The Hubli-Dharwad Municipal

Corporation was managing the Scheme. Now the capacity of the source is 1.2 MGD and the rate of supply is 80,000 litres per day.

The urban water supply and drainage board has undertaken the supply of water to Hubli-Dharwad from Neersagar water works with a capacity of 7.5 MGD at 80 litres per head per day. Now, the Board has completed the Comprehensive Water Supply Scheme for Hubli-Dharwad from Malaprabha Reservoir, with a capacity of 9 MGD at the rate of 80 litres per head per day.

7. Drainage

The present conditions of the surface drainage system in the city is far from satisfactory. One of the main reasons for this is the fact that for a number of years, no surface drains are either constructed or repaired. As a result of which has been that even today on some of the main roads, there are no drains or the drains are in such a bad condition.

The topography has provided three drainage valleys in Hubli city. One of the valley runs in the Cotton Market Area. The second one runs across Koppikar Road and joins the Unkal Nalla. The third one is passing through the Bhangi colony and Badigar Oni and also joins the Unkal Nalla. This is the main drainage line for the whole city.

In 1942, a surface drainage scheme was proposed by the erstwhile Hubli Municipality and was partially implemented. As a result, most of the main roads were left without drains. The conditions of the surface drains have not improved since then. The position of surface drains even in the extension areas like Ashok Nagar, Vijayanagar, Vidyanagar, Ramnagar is still worse. Immediate attention is required to be paid for the construction of new drains and also to improve the existing drains.

7. Underground Drainage

The underground drainage is already provided by the Hubli-Dharwad Municipal Corporation to the old areas. Nearly 50% of the city is covered by U.G.D. facility. Some of the extension areas are yet to be provided with the facility. The areas developed by the Industrial Areas Development Board, Housing Board and the Improvement Board have their own independent septic tanks. There must be comprehensive underground drainage scheme for the city bringing all these independent facilities under the main network.

7.4 Sanitary Conditions

It is found that in old areas of the city hardly 15% of the houses have independent lavatory block. The areas like Old-Hubli, Settlement area etc. have the maximum concentration of population with lack of sanitary facilities. People are to rely on the minimum number of public latrines provided by the Hubli-Dharwad Municipal Corporation. The local authorities have to come forward to help the people to provide themselves with the facility of flush latrines.

In the city, many public latrines and urinals are located at street intersections and other busy places. This is a source of insanitary conditions.

washing of clothes by Dhobies at several places is another source of insanitary conditions in the city. A few Dhobi ghats are provided by the Hubli-Dharwad Municipal Corporation. An extensive Dhobi Ghat is to be provided where water facility is available.

7.5 Garbage and Night soil disposal

The most important work the civic authority has to do towards maintaining clean and healthy environment of the city is the efficient disposal of garbage and night-soil. It is estimated that nearly 150 tons of garbage is put out daily and disposal capacity is about 100 tons. As for the night-soil, it is estimated that nearly 1 lakh lbs of night-soil is put out daily and about 25% is properly disposed. This shows that much has to be done in this regard to keep the city clean and healthy.

7.6 Electricity

Prior to 1935, the electricity was being supplied to the city by Hubli Electric Co. The supply was very limited and many of the ginning units had their own generating sets. After the establishment of the Mysore State Electricity Board more power was made available to Hubli and as a result, number of small and medium industries were established and also Industrial Estates at Hubli, Dharwad and Sattur came into being.

Power is supplied to Hubli city with 110 K.V. transmission lines and this has been re-distributed to other parts of Karnataka. An 11 K.V. transmission line runs near by the proposed Industrial Township. The important power lines running across the city are the 11 K.V. and 33 K.V. lines which are fulfilling the needs of the city.

HUBLI CHAPTER VIII

TRAFFIC AND TRANSPORTATIONS

Railways :

Hubli is one of the major railway junctions on the Poona-Bangalore metre gauge line. The Hubli-Guntakal and Sholapur metre gauge line starts from here. Both the rail lines were introduced in the year 1878. The Railway workshop for repairs of engines and coach building was established in the year 1883. Today this is one of the biggest workshops in the southern region. Hubli can also be called as a Railway Town, as nearly 650 acres i.e. 17% of the developed area comes under railway use. The area includes workshop, store and residential colony and other railway uses such as offices, hospital and playgrounds.

In a year nearly 20 lakhs passengers go out of Hubli station and nearly 18.5 lakhs passengers come to Hubli.

Goods traffic handled at Hubli is classified into two groups (i) Iron and Manganese ores. (ii) Cotton, Timber, oil seeds etc., yearly about 3 lakhs tons of ore is coming to Hubli and out of this 70% goes to Karwar port by road and 30% by rail to Marmagao. Under the 2nd item nearly 65,000 tons of grocery, timber, cotton, oil seeds, cement etc., are transported by rail. The imports are mostly raw materials. The export is nearly 75,000 tons a year and mostly consists of pressed cotton, oil seeds, timber etc.

Highways

Poona-Bangalore National Highway and Kanwar-Bellary State Highway pass through Hubli city. The city development centres around these two highways. The National Highway cuts across the city in North-South direction separating Old Hubli and New Hubli. It is estimated that daily about 10 to 12 thousand tons of traffic passes through this road. Nearly 50% of the traffic is found to be through traffic which could be avoided through the city by making a bye-pass road.

A bye-pass road of NH4 is proposed taking diversion near Gabbur village on the south running beyond the city on east and joining the NH4 near Narendra village after Dharwad. This road on completion will certainly relieve the city of through goods traffic.

The Karwar-Bellary State Highway is used mainly for ore carrying from Hospet area to Karwar and Belkeri ports. The road enters the city from Railway colony in the east runs in front of Corporation Office to join the NH4 near traffic island. From here it takes towards west and leaves the city after Electric Grid. It is estimated that nearly 4000 tons of goods traffic is moving daily on this road.

There is one more State Highway running in the city linking the city with Sholapur-Bijapur Bagalkot areas. The traffic on this road is comparatively less with an average of 400 tons a day.

The City Traffic

The city traffic within the city has considerably increased now particularly the traffic between Hubli and Dharwad is alarmingly increasing. New extension areas have come up where city bus facilities have been extended. In view of this, a mass transportation network is to be evolved in the city. Traffic signals at important road intersections are to be installed. The traffic between Traffic Island and Hosur is to be regulated immediately. Fly-overs, sub-ways, road widening, provision of separate tracks for pedestrians and cyclists and such other remedial measures are to be taken up immediately.

In view of this the Planning Authority, Hubli proposes extensive Traffic Survey and prepare a separate Traffic and Transportation Plan with the assistance of the Department of Town Planning.

HUBLI

CHAPTER IX

5. SHELTER SITUATION INCLUDING CURRENT STATE OF HOUSING STOCK, ANNUAL ACCATION OF FORMAL AND INFORMAL HOUSING STOCK

Existing Conditions :

The population of the city which was 1,70,163 in 1961 was increased to 2,49,170 in 1971 i.e., an increase of 47% during the same decade whereas the number of houses has increased from 40,245 to 45,138. Therefore, it may be concluded that the actual growth of number of houses was not commensurate with the growth of population and thereby it has created acute shortage of houses and overcrowding in the city.

Regarding the structural conditions of the houses it may be stated here that the conditions are below average and most of the structures are of sub-standard construction. Classification of houses based on census figures show that there are nearly 70% houses which are of moderate structural condition, about 21% are of fair structural condition and nearly 9% of houses are fit for immediate demolition. The houses are generally small and mainly with stone and mud foundations and brick walls, mostly of sun dried variety. Some of the poorer class houses are single-roomed huts with bamboo splits plastered on ridges with mud. All the houses in the old parts of the city are built practically in continuous rows, the wall of one abutting the other. In extension areas like Deshpande nager, Ashok nager, Vidyanagar, Vijayanagar which are purely residential areas whereas new type of R.C.C. Buildings have been constructed. It is seen that 74.50% of the houses at Hubli have tiles, slate etc., as their roofing material and only 20.5% have concrete or stone slab as their roofing material. The houses with roofing materials as corrugated iron, zinc or other metal sheets are also more in number and its percentage is 11.8% of the total houses. The classification of houses by wall materials show that 70.63% of the houses have mud walls, 9.0% have grass, leaves of bamboo, 13.38% have brick and 6.18% have stone walls.

Slums

The rate of increase in housing activity is far below the rate of increase in population. Hubli-Dharwad City being a major centre of economic activities in North Karnataka area, has been experiencing influx of rural population in search of work. This migrated population find shelter in available vacant places in the city resulting in slums with utter sub-standard living conditions.

At present there are 32 slums in Hubli city. The Hubli-Dharwad Municipal Corporation has undertaken improvement works in 23 slums and 4 works are taken up by Slum Board.

Housing shortage

It is the general phenomena that housing activity is not commensurate with the increase in population. Rapid increase in population and migration of people from rural areas to the city created acute housing

problem. It is estimated that at present there is a shortage of about 10,000 houses in Hubli city. By 2001 the shortage is estimated to be 15,000 houses, if some remedial measures to meet out the shortage are not taken.

Colleges etc. The maximum increase is from 1971 to 1981 i.e. 51706 which is due to merging of villages within Hubli-Dharwad Municipal Corporation limits and due to industrial and commercial activities. The details of increase of population are as follows :—

DHARWAD

GROWTH OF POPULATION AND EMPLOYMENT AND SECTORIAL DISTRIBUTION OF EMPLOYMENT

2. Growth of Population

The population of Dharwad which was only 21230 in 1901, increased to 77235 by 1961. The increase of population during 1901 to 1911 was 8361, while during 1911 to 1921 it was only 4629. During 1941 to 1951 the increase was by 18579 which is the highest from 1901 to 1961. This is due to the establishment of Karnataka University and Janata Arts and Science

Year	Population
1. 1901	21,230
2. 1911	29,590
3. 1921	34,220
4. 1931	40,904
5. 1941	47,992
6. 1951	66,571
7. 1961	77,235
8. 1971	1,22,395
9. 1981	1,74,101

The sectorial distribution of employment in the years 1971 and 1981 for Hubli & Dharwar is given in Annex-I & II.

HUBLI DHARWAD CORPORATION

Occupational Structure

Year	Total Workers	Cultivators	Agricultural Labourers	Live stock forestry etc.	Mining & quarrying	Manufacturing processing repairs	Other Servicing
						House hold Industries	Other than Household
1	2	3	4	5	6	7	8
1971	105804	6179	9364	820	234	4279	18459
Construction	Trade and commerce	Transport & Communications	Other Services	Non-Workers			
9	10	11	12	13			
4939	20726	28202	22602	273362			

HUBLI DHARWAD CORPORATION

Occupational structure

Year	Total Main workers	Cultivators	Agricultural labourers	Household Industry manufacturing processing servicing & repairs	Other Workers	Marginal Workers	Non-Workers
1	2	3	4	5	6	7	8
1981	1,46,941	8,761	11,702	6,207	1,20,211	2,964	3,77,203

3. *Special distribution of population and employment and its evolution over the years represented through appropriate maps*

Some pockets of Durada bali of Old Hubli City have the highest density of 500-750 persons per hectare. The lowest density of 100-125 persons per hectare prevails in Ashoknagar, K.M.C. Medical College area, Keshavapur village area.

The pockets on the eastern side bus stand of Old Dharwad City have the density of 375-500 persons per hectare. The lowest density of 100-125 persons per hectare prevails in Malanaddi, Sadankere area.

DHARWAD

CHAPTER NO. VII

URBAN INFRASTRUCTURE SERVICES-WATER SUPPLY, SEWERAGE, TRANSPORTATION & OTHERS

4. *Water Supply*

Prior to the commissioning of the Kelgeri water works the town derived its water supply from the following tanks.

1. Hirekere near Hosakyellapur
2. Koppadkeri between Malapur and Gulganjikoppa
3. Halekeri between fort and town
4. Poormanakatti Reservoir on Aminbhavi Road, and
5. Municipal reservoir to S.W. of town built in 1880.

Further this supply was augmented by a number of wells in the city.

The Kelgeri water works, near the Kelgeri village situated on the Goa Road was sponsored by Sir M. Visweswaraya in 1880 and it was completed in 1911, with a catchment area of 6.36 sq. miles and has a capacity of 5.45 M.cft. In 1951 it was estimated that the per capita consumption was about 6 gallons per head.

The Neersagar water works was started to ensure a better supply. The reservoir located at Saraswatpur, distributes the water which is pumped from Kanvi Honnapur.

Drainage

The natural slopes at Dharwad makes it easy for the flow of storm water. Many surface drainage are constructed by the Municipal Corporation in major roads. But in the interior parts and other village settlements, they have yet to be improved. As in Hubli, the road widening schemes have caused the misuse of the existing drains and the delay in construction of new ones had made the problem more serious.

The inadequate water supply was a set back for comprehensive drainage schemes. The Neersagar project has made it possible to have the underground drainage system.

The proposed comprehensive underground drainage schemes for Dharwad was sanctioned in 1958 and the work commenced in 1960.

The project is meant for sewage only, but not for the storm water. The scheme was designed for a population of 1,20,000 expected by the end of 1956. The daily rate of water supply is taken as 30 gallons per head, and 80% of the total supply is assumed to be sewage which gives a total discharge of million gallons main lines and three volume flow for branch lines.

The whole town is divided into three districts. The first district comprising of Saidapur, Gulganjikoppa and Kamalapur. The second district comprises of Malanaddi, collector's compound, Sarswatpur, Railway Station area and Saptapur. The natural gradients of the town are very helpful in laying the Sewers. The outfall sewer of 24" dia will be laid in Medihal and will be lead to the disposal works. The Malanaddi, Sarswatpur areas etc., which are at higher level will be joined to this outfall sewer.

Sanitary facilities

It is found that hardly 15% of the houses have latrines. Further, the peculiar feature of the existence of public lavatories as in Hubli can be observed here also. Public urinals are existing all over the city without any regard to proper location.

DHARWAD

TRAFFIC AND TRANSPORTATION

Railways

Dharwad is one of the stations on the Bangalore Poona meter gauge line. Railway was introduced in the year 1978. There is a proposal to convert this meter gauge to broad gauge in the near future, when the conversion of Hubli-Murmagon is taken up.

a. *Passenger Traffic Railway*

In a year nearly 3.6 lakhs passengers go out of Dharwad station and nearly 3.0 lakhs come to Dharwad. Out of this passengers going towards Poona side are nearly 40% whereas passengers going towards Bangalore are 54%.

b. *Goods traffic by rail*

Goods traffic handled at Dharwad is comparatively less than Hubli. The yearly import of commodities by rail is about 12 lakhs tons while export of commodities which are imported are timber, grains, oils, grocery etc., while the major commodities exported are oil seeds, cotton, pressed cotton, plywood articles etc.

Highways

Dharwad is well connected with other towns such as Bijapur, Karwar, Goa and Hubli by Highways.

1. *National Highway No. 4*

The Poona-Bangalore National Highway passes through Dharwad and literally bisects the town into old and new town. The eastern side of national highway consists of old Dharwad and central business

district whereas the western part consists of new extensions of Dharwad and Deputy Commissioner's compound, Karnataka College, University etc. Daily about 6500 tons of traffic is passing on this road. From a traffic survey of the Highway, it is seen that hourly about 275 fast moving vehicles go towards Poona and 142 come from Poona side. Nearly 20% of the traffic on this road is through traffic.

b. Kalaghatgi Road

The major district road which enters near Malamaddi, connects Dharwad with Kalaghatgi, and then to Karwar. The traffic on this road is moderate. About 50 fast vehicles move on this road per hour.

c. Saundatti Road

The major district road which enters near Mrityunjaya match connects Dharwad with Saundatti and other major towns on the northern side.

d. Goa frontier road

The road from Marmagoa enters the town near Mental Hospital via Kelseri village. The road does not carry any heavy traffic.

e. Haliyal Road

The road connecting Haliyal and Dandeli etc., enters the town near the University.

Movement of Passengers by Bus

The State Transport Buses run on all major roads and give better convenience to the travelling public. Recently a new bus stand has been constructed near Azad Park. Due to heavy bus movement, the bus stand is congested. The bus stand is equipped with rest room and hotels. A bus depot in between Saundatti Road and Vidyaranya High School road is constructed and Dharwad is directly connected by bus with Bangalore, Hosnet, Bailhongal, Athani, Gokak, Gadag, Sholapur, Panjim.

Floating Population

Assuming that a bus will carry about 40 persons the floating population will be about 6000 by bus and nearly 4000 by rail. So the total floating population will be about 10,000.

Circulation patterns

The circulation patterns at Dharwad is neither planned nor designed on any recognised pattern. Mostly grid iron is adopted in the new developments.

The Jubilee circle near Corporation office, is the converging point of all major roads. The national highway, the Haliyal Road and Saundatti road converge at this point. The Planning Authority proposed to install traffic signals for the circle. The roads at Dharwad are wide in the new development such as Saptapur area Malamaddi etc. In old Dharwad there are many narrow streets.

DHARWAD

SHELTER SITUATION INCLUDING CURRENT STATE OF HOUSING STOCK, ANNUAL ACCATATION OF FORMAL AND INFORMAL HOUSING STOCK

Existing conditions

The sudden increase in population from 1941 onwards has created housing shortage at Dharwad. In 1961 there were 13,238 houses accommodating 77,235 persons. This shows that the family size per house which was 5.69 in 1961 increased 6.4 in 1971 increasing the over crowding in the houses.

The classification of houses based on wall material reveals that about 48% of the houses are of mud wells, 18% are of burnt brick and 24.2% of other materials. The classification of houses based on roof material reveal that 81% of the house have roofs with tiles, slate, shingle etc. From the above two classifications, it is seen that nearly 70% of the houses are of low standard.

Occupancy Status

At Dharwad nearly 24% of the households have one room, and 27% have two rooms. This means that nearly 51% of the population live either in one or two rooms. The house holds with 3 rooms are 17.8% and 31.2% households have four and more than four.

Slums at Dharwad

Dharwad is no exception for slums as in the case of many cities of India.

The following are the slums declared in Dharwad.

1. Ravapur Block No. 1+2+4
2. Lakshmansingh Tank
3. Waddar cikiby
4. Lakamanahalli end of Saraswathpur
5. Attikolla Gavali galli
6. Attikolla plywood factory
7. Chapparband colony
8. Saidapur Dandin Oni
9. Suidapur Mosque
10. Barakotri
11. Sudugad Chawl.

Housing Problem

The housing activity at Dharwad has not kept pace with the increase of population, resulting in housing shortage. There at present the shortage of houses in Dharwad is to the tune of 12,000.

Housing Activity

The housing activity at Dharwad is quite slow. Recently many cooperative societies have started for the construction of houses. Some of the important housing societies are the following.

1. Navodava Co-op. Housing Society
2. Model Housing Co-op. Society.
3. Janata Housing Co-op. Society.

The Housing Board has also taken up the construction of houses near Karnataka University.

6. *Legal and administrative frame work for urban planning and Management*

Karnataka Town and Country Planning Act 1961, came into force from 15-1-65. It provides for the constitution of Town Planning Authorities for the preparation of Outline Development plan, Comprehensive Development Plan and for taking up of Town Planning schemes in the areas within their jurisdiction. It also provides for creation of State Town Planning Board with the Minister in-charge of Town Planning as Chairman and Director of Town Planning as Member-Secretary for advising the State Government regarding planning and development for determining principles and policies for achieving the balanced development of the state as a whole.

8. *Planning strategy*

Formal planning strategy adopted, if any covering various aspects such as land-use and transport policy, employment location policy, land policy etc.

The Government of Karnataka has constituted a committee on urbanisation in Karnataka (Sub-group of economic & Planning Council under the Chairmanship of Dr. Charles M. Correa for the purpose of evolving an urbanisation policy for Karnataka. The Committee has submitted an interim report to the Government for consideration.

9. *Problems encountered in implementation of the accepted planning strategy*

There is lack of co-ordination among the agencies concerned in Development activities such as Development Authorities, City Improvement Boards, City

Improvement Trust Board, Municipal Corporation, Municipalities, villages Panchayats, Revenue Authorities, Karnataka Industrial Area Development Board, Karnataka Housing Board, Karnataka Electricity Board, Telephone Department, Bangalore Water Supply and Sewerage Board, Karnataka Urban Water Supply and Drainage Board, Karnataka Slum Clearance Board etc.

2. There are Financial constraints for acquisition and development as per plan proposal.

CONCLUSION

All towns and cities are suffering for want of finance. They have not been able to take any development works. It has not become possible for them to provide even the minimum basic amenities to the urban dwellers. It is therefore, necessary that the National Commission should address itself seriously to this aspect and recommend liberal financial assistance by the Government of India to these Local Bodies. It is also suggested that Urban Development Bank on the lines of I.D.B.I. may be suggested. Recommendations may also be made to take steps to bring the demands of the Local Bodies within the purview of the Finance Commission.

As regards Bangalore City, it is a National city. The State Government is making a separate proposal for declaring it as a 'National City' and extending financial assistance as recommended by the Commission in the cases of New Delhi, Calcutta, Bombay and Madras.

KERALA

THE NATIONAL COMMISSION FOR URBANISATION

The State of Kerala came into existence as a result of the States re-organisation on 1-11-1956. It was carved out of the territories of the then Princely States of Travancore and Cochin and of the Malabar District of the former Madras State. The history of municipal administration in Kerala is therefore that of the three constituent units viz., Travancore, Cochin and Malabar.

There are three municipal corporations, 43 municipalities and one township. They are governed by the Kerala Municipal Corporations Act, 1961, the Kerala Municipalities Act, 1960 and Guruvayoor Township Act. In addition to this there are seven development authorities created under the Kerala Town Planning Act. The names of Development Authorities are shown in annexure I.

A clear demarcation between urban and rural area is difficult in Kerala as the settlement pattern is different from other parts of India. The urban population in the State shows a consistent increase over the decades. The urban component of the total population in the State stood at 47.71 lakhs (18.74 per cent) as against 4.54 lakhs (7.10 per cent) in 1901. This trend is expected to continue in future decades also. Details of area, population and density are shown in annexure 2. The perspective population depends on three factors (1) birth rate (2) death rate and (3) migration. The course of fertility during the coming decade is uncertain. The range of possibilities extends from constant fertility to a major decline or any course between the two. The death rates are falling rapidly. This will result in a faster rate of growth of population. Unemployment and under employment are acute in the State and therefore the influx of population into the cities can be expected to increase in future. Statement showing estimated population in 1985 and 1990 is given in annexure 3.

The pace of urbanisation is set predominantly by the development programmes especially in the industrial sector. People migrate to the cities and towns in quest of higher employment potential offered by the new factories and establishments and commerce and trade centres. Several of the urban centres are caught in the process of decline. The time is overdue to arrest this deterioration. The situation call for an even

distribution of the industrial potential and development effort and the initiation of co-ordinated programmes for the economic growth of the cities and towns. Civic administration in Kerala, as elsewhere in the country had from its very inception been grappling with the elusive problem of finding finance adequate for its proper and effective functioning. The standards of amenities and services provided by urban local bodies have seldom created an image of satisfaction in the public mind. Much of this is attributable to the frequent crises in municipal finances emerging from inadequacy of resources pitted against mounting expenditure on a wide range of functions and the steep escalation in administrative overheads.

Scarcity of drinking water is one of the major urban problems. Water supply and sewerage are essential ingredients of a healthy environment indispensable for banishing water borne diseases from the urban areas. The provision of protected water supply has special significance in a tropical country like India where water borne diseases frequently appear in an epidemic form. Unfortunately in most of the towns the water supply is inadequate. Unless the State Government receives adequate funds for urban water supply schemes this problem will remain unsolved.

Solid waste disposal and environmental protection has become a problem for all major urban local bodies. In view of high density of population it is difficult to find suitable area even in villages to dispose solid wastes from urban areas. The urban local bodies are not able to meet the capital cost for establishing mechanical compost plants or incineration plants. They have to be provided with suitable grants. Government have already permitted three municipal corporations to engage NEERI to make a study of environmental impact analysis of the respective areas and to furnish a project report for implementation.

Shelter is a basic requirement of civilised life. Housing for all people has become a major problem requiring huge investment. The rapid increase in population, the scarcity of materials and high cost of labour are the major hurdles. In our cities and towns more than 60% of space is occupied by the residential developments. The rapid increase in population and the slow evolution of single family system have increased the need for housing in cities and towns. The exist-

ing housing deficiency is very high. About 40% of the dwellings are environmentally deficient or extremely of sub-standard nature. A statement showing the distribution of houses according to plinth area is enclosed in annexure 4. This is related to the existing inequalities in the income level of people of our society. It is difficult for majority of the people to find the means or necessary finance to construct a house that will satisfy their minimum needs. The provision of minimum housing facilities for reasonably comfortable and hygienic accommodation to the economically weaker section is one of the social obligations of our developmental planning. In view of the peculiar settlement pattern and high cost of acquisition organised housing programme have become difficult. It is better to provide adequate loan at lower rate of interest.

In providing shelter, facilities of drinking water, sanitary facilities and power supply are important. The details given in annexure 5 will show the deficiency in electricity, drinking water and water sealed latrines of the existing house stock.

Employment

Unemployment is a major problem not only in Kerala but even at the national level. Apart from the question of permanent employment the extent of under-employment is also important. The growth of unemployment at the State and national levels during the last few decades has been high. This is due to various reasons like rapid increase in population, inadequate developments in the fields of agriculture and industry. The labour force in Kerala is 77.9 lakhs 18% of the labour force is employment seekers.

In urban area the percentage of job seekers to labour force is 21.5 as against 17.46 in the rural area. The distribution of labour force and employment seekers is given in annexure 6. The employment problem is more acute in urban areas compared to that in rural areas. In almost all districts the percentage of employment seekers are more in urban area than in rural area. The higher percentage in the urban area is due to reasons such as better facilities for education, migration of employment seekers etc.

At the beginning of 1980 there were 5.7 lakhs persons working outside the State, 3.02 lakhs within India and 2.08 lakhs outside the country. Among foreign countries Gulf area engages vast majority of outmigrants to outside countries. Maharashtra State stands first among the States in India, in accommodating the Keralites.

Physical pattern

Urban centres function as an efficient and economic location for industrial growth and they attract factors of productions. Economics industrial sectors have made concentration of production in or near cities. The economic activity have a tendency to get attracted to or near urban centres and economic growth is related to urban growth to a large extent.

Systematic ordering on urban growth can produce substantial economics. One of the striking phenomena in the developing countries is rapid growth of urban centres. In India also it is observed that major urban centres are growing at a faster rate than medium and small towns. This is true in the case of Kerala also. The trend shows that the people are attracted to large towns and cities where they can take advantage of the benefits of urbanisation. In the overall frame work of the V Plan the following measures have been taken for urban development.

- (1) To augment civic services in urban centres as far as possible and to make them fit for a reasonable level of living.
- (2) Make efforts to tackle the problem of metropolitan cities on a more comprehensive and regional basis.
- (3) To promise developments of smaller towns and new urban centres.

Development plans have been prepared for major urban centres. But the proposals contained in the developmental plans/regional plans could not be implemented due to paucity of funds, inspite of constitution of Development Authorities. They have not been provided with sufficient seed capital and hence they could not make any impact in the region; except the Greater Cochin Development Authority.

As the implementation of the schemes prepared by these authorities require massive investment the implementation is getting delayed and the validity of the scheme is lost. The Development authorities being the agencies for regional development may be provided with seed capital of Rs. 2 crores for the three major authorities and Rs. 1 crore for the minor authorities.

The provision made for the urban development in the plan have been inadequate. Assistance for major improvement schemes are not contemplated. It is necessary that higher outlays and priorities are given for urban development so that essential schemes in the local government sector do not suffer. More towns have to be covered under the I.D.S.M.T. Scheme. Almost all the Taxation.

The grace and charm of our old cities are being lost in the process of modernisation. In spite of long traditions of art in society the new developments ignore the past traditions and gives an uninspired appearance for our cities. The device of architectural control has to be attempted with caution. Aesthetic treatment shall start with streets, parks, public buildings and other civic reserves which occupies 30% of the city area.

It is true that the urban dweller is moving in a cultural vacuum created by our technological progress. The aspirations of city people are suffocating in the ugliness of our environment of nerve reeking congestion and over crowding. We shall enable city people to create a cultural environment by promoting cultural institutions.

ANNEXURE 1

NAMES OF DEVELOPMENT AUTHORITIES

1. Greater Cochin Development Authority, Cochin.
2. Trivandrum Development Authority, Trivandrum.
3. Calicut Development Authority, Calicut.
4. Kottayam Development Authority, Kottayam.
5. Quilon Development Authority, Quilon.
6. Trichur Urban Development Authority, Trichur.
7. Palghat Development Authority, Palghat.

ANNEXURE 2

Name of Corporation/Municipality	Area (Sq. Kms.)	Population (in lakhs)	Density of population
(1)	(2)	(3)	(4)
<i>Corporations :</i>			
1. Trivandrum	74.93	4.83	6447
2. Cochin	94.88	5.13	5409
3. Calicut	82.67	3.94	4771
<i>Municipalities</i>			
1. Neyyattinkara	9.70	0.28	2886
2. Nedumangad	32.52	0.44	1353
3. Attingal	14.18	0.30	2091
4. Varkala	15.42	0.34	2206
5. Quilon	18.48	1.38	7464
6. Punalur	34.60	0.43	1244
7. Pathanamthitta	23.50	0.33	1403
8. Mavelikkara	12.65	0.27	2103
9. Kayamkulam	21.79	0.61	2814
10. Chengannur	13.00	0.25	1912
11. Thiruvalla	14.47	0.29	2020
12. Alleppey	46.77	1.70	3634
13. Shertalai	16.19	0.40	2501
14. Changanacherry	13.50	0.52	3849
15. Kottayam	15.55	0.64	4143
16. Palai	15.93	0.22	1357
17. Vaikom	8.73	0.21	2417
18. Thodupuzha	35.43	0.36	1009
19. Thrippunithura	18.69	0.44	2335
20. Muvattupuzha	13.18	0.25	1921
21. Kothamangalam	37.45	0.33	884
22. Perumbavoor	13.59	0.23	1697
23. Alwaye	7.18	0.25	3521
24. Angamaly	24.05	0.28	1177
25. Parur	9.03	0.26	2911
26. Chalakudy	25.23	0.42	1660
27. Irinjalakuda	11.24	0.26	2322
28. Kodungalloor	17.30	0.28	1638
29. Trichur	12.65	0.78	6160
30. Kunnankulam	6.96	0.19	2793
31. Chowghat	12.41	0.34	2767
32. Chittur-Tathamangalam	14.71	0.30	2067
33. Palghat	26.60	1.11	4182
34. Shoranur	32.28	0.35	1088
35. Ponnani	9.32	0.43	4638
36. Tirur	16.59	0.41	2459
37. Malappuram	33.60	0.40	1184
38. Manjeri	53.06	0.54	1017
39. Badagara	21.34	0.64	3007
40. Tellicherry	15.35	0.76	4923
41. Cannanore	11.03	0.61	5522
42. Kasaragod	16.68	0.43	2586
43. Kanhangad	39.54	0.46	1169

ANNEXURE 3

Name of Corporation/Municipality	Population (as per Census) (‘000)		Estimated Population (‘000)	
	1971	1981	1985	1990
A. Corporations				
1. Trivandrum	409.6	483.1	516.0	560.4
2. Cochin	439.1	513.2	546.3	590.7
3. Calicut	334.0	394.4	421.6	458.2
B. Municipalities				
1. Neyyattinkara	24.0	28.0	29.8	32.2
2. Nedumangad	N.A.	44.0	N.E.	N.E.
3. Attingal	27.1	29.6	30.8	32.2
4. Varkala	N.A.	34.0	N.E.	N.E.
5. Quilon	124.2	137.9	143.9	151.6
6. Punalur	38.2	43.0	45.1	47.9
7. Pathanamthitta	N.A.	33.0	N.E.	N.E.
8. Mavelikara	25.6	26.6	27.0	27.5
9. Kayamkulam	54.1	61.3	64.5	68.7
10. Chengannur	N.A.	24.9	N.E.	N.E.
11. Thiruvalla	26.7	29.2	30.3	31.7
12. Alleppey	160.2	169.9	174.0	179.2
13. Shertallai	36.8	40.5	42.1	44.2
14. Changanacherry	48.5	52.0	53.4	55.2
15. Kottayam	59.7	64.4	66.4	69.0
16. Palai	20.3	21.6	22.2	22.9
17. Vaikom	20.0	21.1	21.5	22.1
18. Thodupuzha	N.A.	35.7	N.E.	N.E.
19. Thrissur	N.A.	43.6	N.E.	N.E.
20. Muvattupuzha	22.1	25.3	26.7	28.6
21. Kothamangalam	N.A.	33.1	N.E.	N.E.
22. Perumbavoor	20.9	23.1	24.0	25.2
23. Alwaye	24.1	25.3	25.8	26.4
24. Angamaly	N.A.	28.3	N.E.	N.E.
25. Parur	24.4	26.3	27.1	28.1
26. Chalakudy	37.6	41.9	43.8	46.2
27. Irinjalakuda	25.4	26.1	26.4	26.7
28. Kodungallur	N.A.	28.3	N.E.	N.E.
29. Trichur	76.2	77.9	78.6	79.5
30. Kuttamkulam	18.4	19.4	19.9	20.5
31. Chowghat	N.A.	34.3	N.E.	N.E.
32. Chittur-Tathamangalam	28.5	30.4	31.2	32.2
33. Palghat	95.8	111.2	118.1	127.3
34. Shoranur	N.A.	35.1	N.E.	N.E.
35. Ponnani	N.A.	43.2	N.E.	N.E.
36. Tirur	32.3	40.8	44.8	50.4
37. Malappuram	32.0	39.8	43.4	48.4
38. Manjeri	N.A.	54.0	N.E.	N.E.
39. Badagara	53.9	64.2	68.8	75.0
40. Tellicherry	68.8	75.6	78.5	82.3
41. Cannanore	55.2	60.9	63.4	66.6
42. Kasaragod	35.0	43.1	46.9	52.1
43. Kanhangad	35.2*	46.2	51.5	58.9

N.A.—Not Available

N.E.—Not Estimated

*Figure relating to erstwhile Kanhangad Panchayat.

ANNEXURE 4

PERCENTAGE DISTRIBUTION OF HOUSES ACCORDING TO PLINTH AREA 1986

Name of Corporation/Municipality	Huts	Old dilapidated Houses	Upto 500 sq. ft.	500 to 1000 sq. ft.	1001 to 1500 sq. ft.	Above 1500 sq. ft.	Total
A. Corporations							
1. Trivandrum	16.5	7.9	27.7	29.4	12.8	5.7	100
2. Cochin	11.7	2.4	40.7	29.6	10.6	5.0	100
3. Calicut	16.2	2.9	29.5	33.3	13.0	5.1	100
B. Municipalities							
1. Neyyattinkara	12.3	3.4	16.8	32.2	26.3	9.0	100
2. Nedumangad	12.2	6.0	48.1	26.1	6.3	1.3	100
3. Attingal	12.5	5.5	35.6	32.7	9.8	3.9	100
4. Varkala	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	100
5. Quilon	27.7	4.1	28.6	25.1	10.2	4.3	100
6. Punalur	26.1	5.3	43.2	16.8	6.4	2.2	100
7. Pathanamthitta	23.3	5.7	34.8	24.0	9.0	3.2	100
8. Mavelikara	18.1	4.7	22.9	24.3	18.2	11.8	100
9. Kayamkulam	37.5	3.8	30.6	16.5	8.8	2.8	100
10. Chengannur	19.4	3.7	32.1	26.2	14.6	4.0	100
11. Thiruvalla	17.2	5.0	36.8	22.1	12.0	6.9	100
12. Alleppey	30.2	4.2	35.3	21.4	6.7	2.2	100
13. Shertallai	33.9	4.8	29.6	18.3	19.6	3.3	100
14. Changanacherry	14.3	4.8	29.8	25.6	16.6	8.9	100
15. Kottayam	11.2	2.3	24.3	33.4	17.9	10.9	100
16. Palai	13.6	3.6	26.9	31.2	13.8	10.9	100
17. Vaikom	24.8	11.3	48.4	10.7	3.4	1.4	100
18. Thodupuzha	32.8	9.4	30.4	17.8	7.9	1.7	100
19. Thrissur	17.1	4.2	33.7	27.3	12.3	5.4	100
20. Muvattupuzha	15.5	2.5	27.7	39.9	10.8	3.6	100
21. Kothamangalam	21.3	2.3	25.1	35.9	11.8	3.6	100
22. Perumbavoor	6.7	0.5	33.5	35.7	17.9	5.7	100
23. Alwaye	11.2	1.1	24.8	29.6	19.9	13.4	100
24. Angamaly	5.6	3.7	58.3	19.7	9.9	2.8	100
25. Parur	24.4	2.9	32.1	23.1	13.3	4.2	100
26. Chalakudy	12.9	2.1	27.4	33.5	15.8	8.3	100
27. Irinjalakuda	6.6	0.8	39.6	28.9	18.2	5.9	100
28. Kodungallur	23.8	2.1	28.5	28.2	12.2	5.2	100
29. Trichur	4.7	1.1	23.4	37.9	22.6	10.3	100
30. Kunnankulam	6.5	1.8	36.6	33.1	18.3	3.7	100
31. Chowghat	32.3	5.0	26.4	16.2	11.8	8.3	100
32. Chittur-Tathamangalam	13.2	5.0	43.0	23.2	9.7	5.9	100
33. Palghat	5.5	3.4	30.3	34.1	16.2	10.5	100
34. Shoranur	18.0	2.6	18.0	34.9	18.8	7.7	100
35. Ponnani	33.5	6.0	28.7	16.0	10.7	5.1	100
36. Tirur	13.0	3.3	34.7	29.2	14.1	5.7	100
37. Malappuram	19.1	3.8	33.3	29.6	11.9	2.3	100
38. Manjeri	11.2	1.3	46.9	29.4	8.3	2.9	100
39. Badagara	13.4	3.6	24.1	32.0	17.1	9.8	100
40. Tellicherry	9.7	7.8	25.9	29.2	17.8	9.6	100
41. Cannanore	4.4	5.4	13.4	33.1	25.4	18.3	100
42. Kasaragod	6.1	3.4	23.6	41.2	21.4	4.3	100
43. Kanhangad	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

ANNEXURE 5

PERCENTAGE OF HOUSES HAVING ELECTRICITY WATERSEALED LATRINES ETC. -1980

Name of Corporation/Municipality	Total No. of houses	Percentage of houses		
		Electrified	Experiencing scarcity of drinking water	Having water sealed lavatories
A. Corporations				
1. Trivandrum	73318	61.8	14.1	37.6
2. Cochin	70287	54.4	41.6	53.8
3. Calicut	44629	52.4	42.6	44.7
B. Municipalities				
1. Noyattinkara	4578	47.1	12.1	30.1
2. Nedumangad	7441	22.3	17.2	12.9
3. Attingal	4845	51.2	15.9	39.5
4. Varkala	N.A.	N.A.	N.A.	N.A.
5. Quilon	20209	54.6	25.3	56.0
6. Punalur	6720	29.4	41.2	28.8
7. Pathanamthitta	5120	32.6	51.5	26.7
8. Mavelikkara	4579	55.8	5.1	43.0
9. Kayamkulam	9244	31.8	3.1	22.0
10. Chengannur	4448	52.3	26.9	38.1
11. Thiruvalla	4678	53.9	36.4	43.5
12. Alleppey	25793	38.4	2.3	37.3
13. Shertallai	6759	36.3	31.8	29.1
14. Changanacherry	7325	59.7	33.6	47.7
15. Kottayam	9840	59.8	26.9	56.3
16. Palai	2842	46.3	33.9	38.6
17. Vaikom	3404	43.5	55.8	43.5
18. Thodupuzha	5672	38.6	35.2	23.8
19. Thrippunithura	6922	39.1	43.7	36.8
20. Muvattupuzha	3934	60.6	23.6	49.2
21. Kothamangalam	5504	35.3	43.6	31.0
22. Perumbavoor	3726	65.7	18.5	54.1
23. Alwaye	3780	76.9	9.3	89.9
24. Angamaly	4731	50.2	52.8	43.5
25. Parur	4242	44.9	20.6	46.3
26. Chalakudy	6521	42.7	17.9	34.9
27. Irinjalakuda	4060	62.0	20.5	59.5
28. Kodungallur	4697	29.7	26.4	31.9
29. Trichur	11274	76.3	35.2	79.0
30. Kunnankulam	3287	51.3	30.1	54.9
31. Chowghat	4604	27.3	31.3	24.0
32. Chittur-Tathamangalam	5284	53.1	19.5	35.0
33. Palghat	16462	60.4	43.8	48.8
34. Shoranur	5717	41.3	57.5	34.6
35. Ponnani	5169	24.9	32.6	25.5
36. Tirur	4945	27.4	25.2	39.4
37. Malappuram	5356	27.2	43.5	30.5
38. Manjeri	7656	26.9	37.2	22.2
39. Badagara	8471	33.0	36.4	36.1
40. Tellicherry	8310	56.6	41.0	41.9
41. Cannanore	7995	70.0	41.7	64.6
42. Kasaragod	5857	52.2	24.6	45.3
43. Kanhangad	N.A.	N.A.	N.A.	N.A.

ANNEXURE 6

PARTICULARS OF EMPLOYMENT

Sl. No.	Name of Corporation/ Municipality	Labour Force	Employ- ment seekers
<i>A. Corporations</i>			
1.	Trivandrum	144857	39784
2.	Cochin	121244	26234
3.	Calicut	84780	21881
<i>B. Municipalities</i>			
1.	Neyyattinkara	8312	2219
2.	Nedumangad	14548	3637
3.	Attingal	8535	1416
4.	Varkala	50193	10578
5.	Quilon	26476	9418
6.	Punalur	11752	2961
7.	Pathanamthitta	9162	2004
8.	Thiruvalla	8478	1767
9.	Alleppey	56180	21978
10.	Sherallai	13846	2531
11.	Kayamkulam	15754	3267
12.	Mavelikara	7233	1389
13.	Chengannur	6437	1492
14.	Kottayam	17576	4280
15.	Changanacherry	11297	1649
16.	Vaikom	6737	2120
17.	Palai	4612	536
18.	Thodupuzha	10917	1082
19.	Alwaye	7902	2082
20.	Perumbavoor	6051	1172
21.	Parur	9051	2829
22.	Muvattupuzha	6493	913
23.	Kothamangalam	9890	1515
24.	Tripunnithura	13937	3529
25.	Angamaly	9831	2168
26.	Trichur	21265	4857
27.	Irinjalakuda	5538	800
28.	Kunnamkulam	5037	609
29.	Chalakudy	9454	1270
30.	Kodungallur	8198	1154
31.	Chowghat	6197	707
32.	Palghat	30586	5660
33.	Chittur-Thattamangalam	9531	1719
34.	Shoranur	10236	1397
35.	Malappuram	7209	1157
36.	Manjeri	11748	1823
37.	Tirur	7051	881
38.	Poonani	11710	1917
39.	Badagara	16900	3534
40.	Cannanore	13642	1265
41.	Tellicherry	17949	3016
42.	Kasaragod	10086	541
43.	Kanhangad	69937	5132

STATUS PAPER

THE PRESENT URBAN LOCAL BODIES IN KERALA

There are at present 3 Municipal Corporations, 43 Municipalities and one Township in the State. The Municipalities are classified into three Grades based on their incomes as follows :

Grade I. Municipalities having an annual income above Rs. 20 lakhs and a population above 50,000.

Grade II. Municipalities having an annual income above Rs. 10 lakhs and below Rs. 20 lakhs and a population above 20,000 but below 50,000.

Grade III Other Municipalities not coming under the above groups. The Municipal Corporations and the Municipalities are governed by the Kerala Municipal Corporations Act and Kerala Municipal Act, respectively. A list of urban local bodies in the State showing date of Constitution, area, population etc. is given in Annexure I.

Criteria for constitution in urban local bodies

There are no statutory criteria for Constitution of Cities, Municipalities are elevated to the status of Corporations on consideration of their importance, pace of urbanisation in the area, need for integrated development of the urban core and its neighbourhood, density of population, income and the demand for installing more progressive civic administration. Similarly the Kerala Municipalities Act does not prescribe any criteria for Constitution of Municipalities. But in G.O.-(Ms) 108/67/HLD dated 2nd March 1967 the Government have laid down the following standards for Constitution of new Municipalities.

1. The locality should predominantly be urban i.e. at least 3/4th of the adult population of the area should be engaged in pursuits other than agriculture.
2. The population of the locality should not be less than 20,000 and the density of population should not be less than 4,000 per 2.59 Sq. km. except in hilly areas.
3. The percapita revenue resources of the locality should not be less than Rs. 5.

The Guruvayur Township was Constituted under a special enactment, the Guruvayur Township Act which provided for the appointment of a Committee to manage the Municipal affairs of the town which is a reputed pilgrim centre. The provisions of the Kerala Municipalities Act are extended to Township area.

Structure of Municipal Corporations

The Government, if a specific resolution is passed by the State Legislature, constitute a local area into a City to be administered under the Kerala Municipal Corporation Act 1961. The authorities charge with carrying out the provisions of the Act are :—

1. a Council

2. Standing Committee of the Council
3. a Commissioner

Council

The Council shall consist of such number of Councils, as may be notified by the Government, such number not being less than 40 or more than 50. All the Councillors are elected on the basis of adult franchise. Seats are reserved for Scheduled Castes in the Council. The number of such seats which is determined by the Government shall bear as nearly as may be the same, proportion to the total population of the City.

The Standing Committees Committee

There shall be three statutory standing committee to deal with.

1. Taxation and Finance
2. Works, and
3. Health.

Commissioner

The Government appoint the Commissioner and he holds office for such period as the Government may decide. The Government may remove the Commissioner at any time and shall do so if not less than 2/3rd of the strength of the Council votes for such removal at a special meeting called for the purpose. Subject to the restrictions, limitations and conditions imposed by the Act, the executive power vests in the Commissioner. He is responsible for the custody of all the records of the Corporations.

Structure of Municipalities

The Government reserve the right to constitute any specified area within defined limits into a Municipality. The requirement of prior publications inviting objections and suggestions giving a period of 2 months for submission thereof, considerations of such objections and suggestions and final publication in the Gazette declaring the area to be a Municipality has to be followed.

Municipalities authorities

The Municipalities authorities charged with carrying out the provision of the Act are :—

- (a) a council
- (b) a Standing Committee of the Council.
- (c) The Chairman, and
- (d) The Commissioner.

The 1981 census has listed out 106 urban centres out of which 46 alone have urban local Government. The urban population of the State as per 1981 census is 47,71,275. This constitutes 18.74 per cent of the

total population of the State. The density of urban population as per 1981 census is 26669 persons per sq. km.

The urban population's growth was much faster than that of the State as a whole. This is evident from the following table.

Year	Population (in lakhs)		Percentage decade variation	
	State level	Urban	State	Urban
1911	71.48	5.25	11.7	15.44
1921	78.02	6.81	9.16	29.78
1931	95.07	9.16	21.85	34.58
1941	110.31	11.96	16.04	30.47
1951	135.49	18.26	22.82	52.72
1961	169.03	25.54	24.76	39.89
1971	213.47	34.66	26.29	35.72
1981	254.53	47.71	16.13	27.35

Municipal Common Service

Kerala Municipal Common Service was constituted under section 91 of the Kerala Municipalities Act, 1960 and section 91 of the Kerala Municipal Corporation Act, 1961. This unified cadre for all Municipal personnel except the lower cadres came into existence from 1-11-1967. Rules relating to Kerala Municipal Common Service were issued in G.O. (Ms) 346/67/DD dated 26-10-1967.

Staff strength in all the Municipalities and Corporations was standardised consequent on the introduction of Kerala Municipal Common Service. The scales of pay of the various categories of posts in the Kerala Municipal Common Service were fixed on the same level as those admissible to the Government Servants. The Municipal employees are governed by the same service conditions and rules as are applicable to Government Servants. The benefit of pension was also extended to them. The recruitment to service was done by a central agency viz. the Kerala Municipal Common Service Recruitment Committee through competitive examinations. From 1st April 1978, the recruitment to the various posts under the Kerala Municipal Common Service are being made through Public Service Commission. The qualifications prescribed are the same as for candidates seeking appointment to corresponding posts in Government Service.

Municipal contingent workers

The State Government in their circular No. 2591/MI. A4/82/LA&SWD dated 27-1-1982 issued guidelines for the selection and appointment of Contingent workers in the Municipalities, Municipal Corporations and Guruvayur Township. The selection for appointment to the post in contingent establishment should be made by conducting an interview of the candidates sponsored by the Employment Exchange by a Committee consisting of Corporation/Municipal Commissioners, health Officers, Mayor/Chairman.

The Municipal Scavengers are classified into the following three categories.

- I Carpenters, Blacksmith and other skilled workers.
- II (i) Special Scavengers
- II (ii) Scavengers
- II (iii) Sweepers
- II (iv) Ordinary workers
- III Workers in poor home.

The Municipal Contingent workers are pensionable and they are eligible for Death-cum-Retirement Gratuity and other benefits admissible to the regular employees.

Department of Municipal Administration

A separate department for Municipalities was constituted during the year 1962, bifurcating the then local bodies Department into the Department of Municipalities (now Department of Municipal Administration) and Department of Panchayats.

The Director of Municipal Administration is the controlling and supervising officer of the Municipal Authorities and Guruvayur Township. He exercises the powers vested in him under the Kerala Municipalities Act and those delegated to him by Government. In respect of the Municipal Corporations through the Director of Municipal Administration does not have full administrative control, the Department functions as a Co-ordinating agency as regards the implementation of the schemes under Five Year Plan, payment of grant-in-aid and execution of development schemes. The power to permit the Municipal Corporations to raise loans from the Kerala Urban Development Finance Corporation is delegated to the Director of Municipal Administration. He is also the inspecting authority in respect of the Municipal Corporations since 1977. The Director of Municipal Administration is the appointing and disciplinary authority in respect of all the staff in Municipal Common Service.

There are 3 Regional Offices under the Department headed by a Regional Joint Director of Municipal Administration in each office.

The Municipal Common Service and the Municipal Pension Scheme are administered by the Director of Municipal Administration. From 1-12-1981 onwards the Central Provident Fund Scheme introduced for the employees of Municipalities, Municipal Corporations and Guruvayur Township is also administered by the Director of Municipal Administration.

The Director of Municipal Administration conducts review of revenue collection in respect of Municipalities, Municipal Corporations and Guruvayur Township Committee in order to speed up revenue collection. Similarly the Director of Municipal Administration conducts review of the enforcement of Prevention of

Food Adulteration Act in the Municipal Corporations and Municipalities.

Obligatory and discretionary function of the urban local bodies

The Kerala Municipal Corporation Act and the Kerala Municipalities Act enumerate a large number of functions which could broadly be classified as falling under the following heads :

1. Public safety
2. Public health
3. Convenience
4. Education
5. Communications
6. Other amenities.

The Finance Rules under the Acts list out the various functions to which the Municipal fund could be applied either with or without Government sanction. The rules authorise expenditure in general on everything necessary for conducive to the safety, health, convenience or education of the inhabitants or to the amenities of the Municipality and everything incidental to the administration.

Financial resources of the Urban local bodies

The financial source of the urban local bodies are :

1. Municipal taxes
2. Revenue from remunerative undertakings
3. Municipal Licence fees and fines
4. Grants and contribution from Government.

Tax resource

The tax resources of the urban local bodies are :

1. Property tax
2. Profession tax
3. Tax on animals, vessels and vehicles
4. Show tax
5. Tax on advertisements
6. Tax on entertainments.

Of the above, property tax forms the major share of revenue of any urban local body. It roughly accounts for 40 per cent of Municipal income. The next important item is entertainment tax.

Non-tax resources

Income from remunerative undertakings also adds to the resources of the urban local bodies. Major remunerative undertakings are market complex, bus stand, slaughter houses, cart stand etc. With the financial assistance from the Kerala Urban Development Finance Corporation the urban local bodies have

been able to take up more and more remunerative schemes.

Government grants and contribution

Section 136 of the Kerala Municipalities Act lays down that the Government may contribute to the funds of any Municipality by way of a grant such sum as may be fixed by Government with due regards to the needs of development and the cost of Municipal administration and service. In order to decide, the pattern of grant-in-aid, the Government have constituted a Municipal Grants Enquiry Committee in 1963 with the Director of Municipalities as Chairman. The Committee made elaborate studies on the financial requirements of the Municipal Corporations and Municipalities in the State and made recommendations for rationalising the system of grant-in-aid. The recommendation of the Committee, barring those relating to a few selected services, were accepted by the Government and orders issued in :

- (a) The Kerala Municipal (General Purpose Grant-in-aid) Rules, 1962.
- (b) The Kerala Municipal (Payment of Specific Purpose Grant) Rules, 1967.

General purpose grant

The general purpose grant is a basic per capita assistance intended to maintain the Municipal administration and to a lesser extent certain nominal civic services that are not eligible for specific grants. The General purpose Grant is now being paid to the urban local bodies at the following rates.

1. Municipal Corporations and Grade I Municipalities . . . Rs. 2.00 per capita
2. Grade II Municipalities . . . Rs. 2.50 per capita
3. Grade III Municipalities and Guruvayur Township Committee . . . Rs. 3.00 per capita

Grant for specific purpose

The Kerala Municipal (Payment of specific purpose Grant) Rules 1967 provides assistance for maintenance of the following selected service.

- (a) Maintenance of isolation hospitals, maternity and child welfare centre, family planning centres.
- (b) Anti-mosquito and anti-filaria operations.
- (c) Maintenance of poor homes, bear homes and relief centres.
- (d) Maintenance of free public ferry services.
- (e) Town Planning and Town Survey Operations.
- (f) Running of Nursery Schools.
- (g) All construction and equipments provided for the furtherance of any of the above service.

The following are the rates at which specific purpose grant is given :

- (a) In the case of Municipal Corporations and major Municipalities at 50 per cent of the expenditure incurred for the maintenance of the selected service.
- (b) In the case of minor Municipalities and Guruvayur Township Committee at 66-2/3 per cent of the said expenditure.

The rules also provided for 100 per cent grant being given to financially weak Municipalities at the discretion of Government. No new service shall be eligible for grant unless such service is taken up with the prior sanction of Government.

Five Year Plan Schemes

The following plan schemes are implemented through the urban local bodies.

1. Slum Clearance/Improvement Scheme.
2. Non-remunerative Town Improvement Scheme.
3. Integrated Development of Small and Medium Towns (Centrally Sponsored Scheme having 50% Central assistance).

Slum Clearance Improvement

The Slum Clearance Scheme aims at the eradication of slums in urban areas and providing the slum dwellers with better housing facilities with minimum standards of environmental hygiene and essential

service. The Slum Improvement Scheme envisages at the improvement of locality where the poor and low income group families live in sub standard conditions. The scheme is being implemented in the State, since its introduction. The Scheme was introduced in 1956 as a centrally sponsored scheme and was transferred to State sector with effect from 1-4-1969. In this state emphasis was given to slum clearance schemes till 1983. The programme for Environmental Improvement of urban slums is an item under the New 20 Point Programme and emphasis is now given to Slum Improvement Schemes.

In a physical survey conducted by the State Town Planning Department it is revealed that about 4 lakhs of people live in unhealthy and unhygienic conditions in slums and other areas like fishermen settlements in the coastal belt, on road sides and highway margin, railway poramboke etc., in the urban areas of this State.

During the Sixth Plan the State Government have sanctioned 76 schemes cost of about Rs. 4 crores formulated by the various urban local bodies and released a total assistance of Rs. 350 lakhs by way of loans and grant for their implementation. Out of the 76 schemes sanctioned majority of them have been completed by covering a population of 98,358. The remaining scheme are under different stages of execution. The details regarding the year-wise targets and achievement (both financial and physical) may be seen in the following table :—

Year	Target		Achievement	
	Financial (Rs. in lakhs)	Physical (No. of persons)	Financial (Rs. in lakhs)	Physical (No. of persons)
1	2	3	4	5
1980-81	64.99	-	64.99	12,445
1981-82	65.00	-	65.00	15,000
1982-83	65.00	18,800	65.00	4,055
1983-84	75.00	18,800	80.16	25,501
1984-85	75.00	30,000	75.00	41,357

In appreciation of the better performance of the State under the programme the Government of India were pleased to accord sanction for payment of an incentive grant of Rs. 11 lakhs and Rs. 25 lakhs during 1983-84 and 1984-85 respectively.

The programme will be continued during seventh plan also. The Seventh Plan outlay for the programme is Rs. 300 lakhs.

The pattern of financial assistance prescribed for the implementation of the scheme is—

Grant—50% of the estimated cost or actual cost of the scheme whichever is less.

Loan—Actual cost minus the grant portion.

Non-remunerative Town Improvement scheme

The scheme envisages payment of financial assistance to the urban local bodies, in the forms of loans

and grant for their non-remunerative undertakings such as construction of Municipal Office, Building, Town Hall, roads, drain, library buildings etc. The pattern of financial assistance prescribed for implementing the scheme is —

Loan—50% of the estimated cost or actual cost whichever is less.

Grant—50% of the estimated cost or actual cost whichever is less.

The provision made available in the Annual Plan Budget for this item is too meagre when compared with the requirements of the local bodies. The Sixth Plan outlay for the schemes was Rs. 50 lakhs.

The Scheme will be continued in the Seventh plan also. The Seventh Plan outlay for the scheme is Rs. 75 lakhs.

Centrally sponsored Scheme for Integrated Development of Small and Medium Towns

The scheme, introduced in 1979-80, lays emphasis on increasing the rate of growth of Small and Medium Towns so as to enable them to act as Growth and Service centres for the rural hinterland and to reduce the rate of migration to Cities. The Scheme is applicable to Towns with a population below one lakh (as per 1971 census). The total investment programme for integrated development in any town will be Rs. one crore. The central share of assistance will be limited to 40 lakhs (loan) and an equal amount will be provided by the State Government as matching assistance. The balance will be the share of the local body.

During the Sixth Plan 9 towns from Our State have been selected under the schemes (viz. Guruvayur, Kottayam, Changanacherry, Kayamkulam, Trichur, Malappuram and Badagra). The Central Government have released a total loan to the tune of Rs. 286.50 lakhs for implementing the approved projects in the above selected towns during Sixth Plan period. The State Government have also sanctioned a total sum of Rs. 274.50 lakhs as matching contribution.

The outlay fixed for scheme for Seventh Plan is Rs. 400 lakhs.

It is proposed to implement the scheme in the following towns during the Seventh Plan.

1. Palghat
2. Pathanamthitta
3. Kasargod
4. Muvattupuzha
5. Kothamangalam
6. Perumbavoor
7. Neyyattinkara
8. Varkala
9. Punalur
10. Thodupuzha
11. Manjeri
12. Ponnani
13. Chalakudy
14. Palai
15. Cannanore
16. Parur
17. Alwaye

Project reports in respect of the following towns have already been submitted to the Government of India.

1. Palghat
2. Thodupuzha
3. Manjeri
4. Ponnani
5. Kothamangalam
6. Muvattupuzha.

Out of the above the project reports prepared in respect of Thodupuzha and Manjeri have been approved by the Government of India in 1985-86 and they have released a total sum of Rs. 40 lakhs as Central assistance for implementing the approved projects in these towns. The State Government have also sanctioned a sum of Rs. 40 lakhs as matching contribution to these local bodies.

The development plan in a City or Town has to be implemented on the basis of detailed Town Planning Schemes prepared in conformity with the guidelines indicated in the development plan. Most of the urban local bodies have prepared detailed Town Planning Scheme. The Detailed Town Planning Schemes are implemented mainly with the financial assistance made available from Government and financial institution like Kerala Urban Development Finance Corporation.

Kerala Urban Development Finance Corporation

In pursuance of the recommendations of the Rural Urban Relationships Committee set up by the Government of India in April 1963 for the formation of Municipal Finance Corporations in the State, the Kerala Urban Development Finance Corporation was incorporated as a private limited company on the 28th January 1970. The Corporation, the first of its kind in India, has for its main objects the following.

1. to provide such financial assistance by way of loans and advances to urban local bodies in the State for their developmental schemes as the company considers necessary.
2. to provide technical or any other assistance and guidance to urban local bodies in the matter of their developmental schemes including implementation of the master plans prepared for the urban local bodies.
3. to provide assistance and guidance to urban local bodies for improving their administrative machinery and procedure.
4. to undertake the schemes in collaboration with the urban local bodies, or with public undertakings on such terms and conditions as the Company deem fit.

The total number of Directors of the Company is 9. 1/3 of the Directors of the Company are appointed by the Government who are non-retiring Directors and the rest are liable to retire at the Annual General Meeting by rotation.

The Corporation has an authorised capital of Rs. one crore. The paid up capital as on 31-12-1984 is Rs. 48,36,100 being the value of 48,361 equity shares of Rs. 100 each. The State Government holds shares worth Rs. 24,85,100 being the value of 24,851 shares, that rest are held by the urban local bodies in the State. The borrowed capital as on 31-12-1984 is Rs. 11,530 lakhs which was raised by floatation debentures during the past 14 years with the permission of Reserve Bank of India and on the guarantee of Government of Kerala.

During the last 14 years Corporation could disburse loans totalling Rs. 24,07,59,650 to 47 urban local bodies in the State for implementation of Urban Development Schemes, which can be classified as remunerative schemes, partly remunerative schemes and non-remunerative schemes.

Municipal Finance Corporation

Based on the recommendations of the Rural-Urban Relationship Committee, the Government of Kerala as per their Order (Ms.) 204/73/LA&SWD dated 15-5-1973 Constituted a Municipal Commission in the State to make suitable recommendations for improving the financial position of the Municipal Corporation and Municipalities. The Commission made elaborate studies on the Municipal Finance and Municipal Administration and submitted its reports, consisting of 207 recommendations, in 1976. The recommendations of the Commission can be broadly classified into following three categories.

1. Recommendations made for the improvement in the Municipal Finance.
2. Recommendations made for the simplification in the method of assessment and collection of various Municipal taxes and fees.
3. Recommendations made for the improvement in the administration of the Municipalities and Municipal Corporations.

The Government have issued orders on most of the recommendations. The rates of various grants being paid to the Municipal Corporations and Municipalities have since been revised based on the recommendation of the Municipal Finance Commission. Action is now under way in amending the Municipal enactments, as suggested by the Municipal Commissioner, in order to enlarge the powers of the Municipal authorities and to simplify the method of assessment and collection of various Municipal taxes.

ANNEXURE I

Name of Corporation	Date/year of constitution	Area in sq. kms.	Population as per	
			1971 census	1981 census
(1)	(2)	(3)	(4)	(5)
1. Trivandrum	1940	74.93	4,82,634	4,83,086
2. Cochin	1967	82.67	4,39,046	5,13,249
3. Calicut	1962	87.34	3,33,979	3,94,447
Grade I Municipalities				
1. Alleppey	1896	48.77	1,60,064	1,69,940
2. Quilon	1903	18.48	1,24,208	1,37,943
3. Palghat	1865	26.60	1,04,085	1,11,245
4. Tellicherry	1863	15.35	68,759	75,561
5. Trichur	1921	12.89	76,248	77,923
6. Kottayam	1923	15.55	59,718	64,431
7. Cannanore	1867	11.00	55,162	60,904
8. Changanacherry	1921	13.26	48,545	51,955
Grade II Municipalities				
1. Badagara	1958	21.34	53,938	64,174
2. Punalur	1971	34.60	38,188	43,039
3. Chalakudy	1970	25.23	37,562	41,894
4. Kasaragod	1966	16.68	34,984	43,137
5. Irinjalakuda	1936	11.24	25,405	26,096
6. Alwaye	1919	7.17	24,067	25,278
7. Muvattupuzha	1958	13.18	22,137	25,313
8. Perumbavoor	1953	13.59	20,888	23,064
9. Palai	1947	15.93	20,723	21,624
10. Kunnankulam	1948	6.89	18,367	19,440
Grade III Municipalities				
1. Neyyattinkara	1913	9.99	23,984	27,993
2. Nedumangad	1-4-1978	33.15	37,907	43,989
3. Attingal	1924	14.76	27,045	29,645
4. Shertallai	1953	16.19	36,752	40,492
5. Mavelikara	1941	12.63	25,648	26,598
6. Kayamkulam	1909	21.79	54,102	61,327
7. Chengannur	1-4-1978	14.60	24,371	24,862
8. Thiruvalla	1920	14.48	26,683	29,225
9. Vaikom	1910	8.73	20,014	21,097
10. Parur	1920	9.03	24,393	25,288
11. Angamaly	1-4-1978	28.26	24,552	28,307
12. Tripunithura	15-8-1978	19.66	38,593	43,646
13. Kodungallur	1-8-1977	17.40	25,385	28,834
14. Chavakkad	1-10-1978	12.41	29,443	34,344
15. Guruvayur Township	1962	6.49	15,863	17,878
16. Chittur-Thattamangalam	1947	14.71	28,510	30,407
17. Shoranur	15-7-1978	32.00	31,355	35,120
18. Malappuram	1970	33.60	32,005	39,786
19. Tirur	1971	18.59	32,722	40,803
20. Ponnani	15-11-1977	7.60	35,723	43,225
21. Varkala	15-5-1980	15.40	30,102	34,009
22. Kothamangalam	1-4-1978	40.04	30,307	33,122
23. Thodupuzha	1-9-1978	35.08	32,478	35,743
24. Pathanamthitta	1-10-1978	24.00	31,295	32,987
25. Manjeri	1-4-1978	53.10	41,138	53,959
26. Kanhangad	1-6-1984	39.54	35,203	46,176

ANNEXURE II

DELEGATION OF POWERS TO THE DIRECTOR OF MUNICIPAL ADMINISTRATION

Section and short description

The power of dividing the municipal area into wards for purpose of Election of Councillors etc.

Power to accord administrative sanction.

Power to accord administrative sanction to Municipal Councils to exempt any area from payment of whole or portion of water drainage or lighting tax.

Appropriation of profession tax between local bodies.

Power to grant exemption (to parties) from payment of any tax to Municipal Council.

Power to direct the Municipal council to modify its budget to be in consonance with the provisions of the Act.

Power to accord sanction to Municipal Council to contribute towards expenditure incurred by Government or other local authority for purpose authorised under

part II and to direct councils to make such contribution.

Power to sanction supply of water to a local authority or other persons outside on specific conditions.

Power to pass orders or give directions to Municipal Council relating to licences for factories etc.

Power to approve and confirm bye-laws.

Power to call for records and pass orders.

Power to sanction institution of suits against Chairman, Councillor or Commissioner for any loss, or misappropriation of Municipal property.

Power to sanction municipal expenditure outside municipal limits.

Power to determine Election expenses.

Power to sanction extraordinary expenditure above the limits prescribed in this behalf.

ANNEXURE III

DELEGATION OF POWERS TO THE REGIONAL JOINT DIRECTORS OF MUNICIPAL ADMINIS- TRATION

1. For inspecting or Superintending the operation of Municipal Councils and Guruvayur Township within their respective jurisdiction [vide G.O. (Ms.) 22/78/LA&SWD dated 25-1-1978].
and G.O. (Ms.) 248/81/LA&SWD dt. 31-12-1981
2. To countersign the T.A. bill of Municipal Commissioners, Executive Officer, Guruvayur Township and Special Officers of Municipalities under the respective jurisdiction of Regional Joint Director [vide G.O. (Ms.) 109/79/LA&SWD dt. 4-6-1979 and G.O. (Ms.) No. 73/82/LA&SWD dt. 21-4-1982].
3. Financial powers like investigation of arrear claims local purchase of stationery etc. [vide G.O. (Ms.) 7/81/P&ARD dt. 5-2-1981].
4. Administrative powers such as sanctioning of leave, making charge arrangements, granting permission to Municipal Commissioners to leave jurisdiction etc. [vide G.O. (Ms.) 28/81/P&ARD dt. 15-5-1981].
5. To inspect or examine any department office service work or thing of or belonging to any Municipal Corporations of Cochin, Calicut and Trivandrum [vide G.O. (Ms.) 247/81/LA&SWD dt. 31-12-1981].
6. Powers to sanction in accordance with the provisions of the G.P.F. Rules, temporary withdrawals from the fund in normal cases, in respect of employees working under him, upto and including those in the category of Administrative Assistant [G.O. (Ms.) 51/82/P&ARD dt. 12-10-1982].
7. Powers to sanction non recurring contingent expenditure upto Rs. 1000 in each case, subject to budget provisions and subject to the rules laid down in the Kerala Financial Code [G.O. (Ms.) 51/82/P&ARD dt. 12-10-1982].
8. Powers to draw and disburse as per Rules, the Travelling allowance bills relating to non-Gazetted Officers working under him [as per G.O. (Ms.) 51/82/P&ARD dt. 12-10-1982].
9. Powers to countersign the Travelling Allowance bills of the Gazetted Officers working under him in the category of Administrative Assistant [vide G.O. (Ms.) 51/82/P&ARD dt. 12-10-1982].
10. To transfer employees in all categories of posts borne in Municipal Common Service, the scale of pay which does not exceed that of :
 - (a) U.D. Clerks under Revenue and Office branch.
 - (b) P.W. Overseer 1st Grade under Engineering and Town Planning Branch.
 - (c) Health Inspector Grade II under Health Branch from one local body to another within the respective regions [as per G.O. (Ms.) 42/84/LA&SWD dt. 21-2-1984].
11. Delegated powers to accept notices of no confidence motion against Municipal Chairman to issue notices for and preside over the meetings of the Council to consider the no-confidence motions, and to act as Ex-Officio Chairman in the absence of Chairman and Vice Chairman [as per G.O. (Ms.) 42/84/LA&SWD dt. 21-2-1984].
12. Delegated powers to accord sanction to a local authority to supply water outside the limit of the authority subject to the conditions that the Regional Joint Directors shall obtain prior approval of the Chief Engineer, Public Health Engineering Department [as per G.O. (Ms.) 42/84/LA&SWD dt. 21-2-1984].
13. Powers to pass orders to give directions to Municipal Council relating to licenses for factories, workshops etc. [as per G.O. (Ms.) 42/84/LA&SWD dt. 21-2-1984].
14. Powers to admit waive or drop claims or objections in Audit of Municipal Accounts after getting the full details examined, to conduct joint local verifications of the audit report with Deputy Examiner of Local Fund Accounts and to permit the Councils to drop outstanding objections upto the financial limit of Rs. 500 and to persue further actions, wherever necessary [as per G.O. (Ms.) 42/81/LA&SWD dated 21-2-1984].

MADHYA PRADESH

A REPORT FOR NATIONAL COMMISSION ON URBANISATION

HOUSING AND ENVIRONMENT DEPARTMENT October 1986

PREFACE

1. The central, long term problems of modern man were aptly articulated by U Thant while addressing the United Nations Assembly in 1969.

"I do not wish to seem over-dramatic, but I can only conclude that we have perhaps, only a few years left to subordinate our ancient quarrels and to launch a global partnership to curb the arms race, to improve the human environment, to diffuse the population explosion and the consequent urbanization and to supply the required momentum to development efforts. If such a global partnership is not reached within the next decade or so, then I very much fear that the problems I have mentioned will have reached such staggering proportions that they will be beyond our capacity to control".

2. Many people believe that the future course of human society, perhaps even the survival of human society, depends on the speed and effectiveness with which the world responds to these issues. However, it is amazing that only a small fraction of the world population is actively concerned with understanding these problems or seeking their solutions.

3. A series of International Conferences were convened in the Seventies by the United Nations to focus world attention on some of these global issues. The Conferences were held on 'Human Environment' (Stockholm 1972), 'Population' (Bucharest 1974), 'Food' (Rome 1974) and 'Human Settlement' (Vancouver 1976). These were largely attended and they suggested comprehensive, far reaching, points for action in regard to these issues.

4. In this country also, since mid-seventies, there has been generation of considerable interest and debate about issues relating to urban explosion and environmental degradation. However, till recently these deliberations though earnest, had been, more or less, sporadic. Excellent results had been achieved in some areas and a great deal of public consciousness has been awakened, but it was not till a couple of years back, that steps were initiated towards evolving national policies in this respect. The setting up of the National Commission on Urbanisation is the most decisive step taken so far in the direction of

evolving a national consensus in regard to problems of changing pattern of human settlements.

5. To our mind the following major concerns emerge unmistakably in this regard.

- (a) An effective human settlement policy can emerge only in the context of the larger national development plans with firm political and financial commitments to the problems of urban areas, particularly, infrastructure, low cost housing and development of employment opportunities for the urban poor. Public policies must, unequivocally, take note of the fact that the needs of approximately a fourth of the country's population living in urban areas, and generating a major share of the nation's financial resources, had to be urgently attended to. Plans and schemes had to be devised to help these areas in not only in terms of finances, but also effective institutional set up and management skills.
- (b) National development plans must consider their spatial implications. The pattern of economic and social development over the national territory is powerfully influenced by the type and location of social and economic investments (by private and public sectors). Although almost all the national development plans have shown concern for the spatial implications of the sectoral investments, in practice, the policies have largely ended up enriching already privileged social groups, regions and large agglomerations. The utter neglect of the small and medium towns, which have grown in large numbers all over the country, is a case in point.
- (c) Issues relating to urban land are at the very core of the problem of urban development. Unfortunately, these issues have not been comprehensively perceived and an organic relationship between the various facets of urban land policies has not been established. Adequate supply of urban land and its price, patterns of

ownership, control of land use changes, densification and recycling of land, public policies of land disposal and taxation, particularly the recapturing of the 'Plus value', are all parts of a common integrated matrix. Further the dialectics of the situation in a developing country like ours demands that this pattern has a strong egalitarian bias. Although the Constitution of India was amended in 1976 (XXV Amendment) to enable this objective to be achieved, the subsequent amendments to the Land Acquisition Act 1984 have not been in conformity with the constitutional provisions.

In the urban areas there are conflicting interests between the various groups seeking land for specific uses—from the lowest income groups seeking accommodation close to possible sources of income, to a multi-national seeking a site for a new factory, to an individual seeking to invest in urban land (and leave it undeveloped) since this gives a non-depreciating investment which rapidly grows in market value (in real terms). A purposeful land policy should define the balance between individual citizen's land-use rights, every citizen's own land-use needs (for instance housing) and community needs (for instance public works and community facilities) and resolve these conflicts.

- (d) For housing policies it must be recognised that large proportion of the households cannot afford even lowest cost houses built by private or public sectors. A squatter shack is often all the household can afford. Recognising this, the Government's primary task should be of integrating this 'informal' nature of housing into the 'formal' sector, accepting it as essential to the needs of the society. It should encourage the general improvement of the living conditions in this 'informal' sector thereby putting its limited resources where they can have maximum effect. Any large scale attempt by Government or its agencies to build conventional houses for the population runs into the 'bottomless pit' problem. However, much they spend, there are always more units needed.
- (e) For reasons of history or otherwise we are, perhaps, the only major country where the concept of a comprehensive, integrated and unified "city government" has not been implemented. The institutional arrangements for administration of urban areas—large and small—are uniformly fragmented with no cohesion at any level. The mix of these institutions in any urban area also varies in character: elected municipalities co-exist with Government nominated, bureaucrat-dominated development authorities; coordinating functions being left to the

State Government to organise, if at all. At the State level also the responsibility is sharply divided between different departments. It was high time patterns of institutional arrangements for different kinds and sizes of urban centres were formulated at the national level. In this regard it would be relevant to recall the observations of the Royal Redcliffe-Maud Commission (England 1966—1969).

"The pattern and character of local government must be such as to enable it to do four things : to perform efficiently a wide range of profoundly important tasks concerned with the safety, health and well-being, both material and cultural, of people in different localities; to attract and hold the interest of its citizens; to develop enough inherent strengths to deal with national authorities in a valid partnership; and do adapt itself without disruption to the present unprecedented process of change in the way people live, work, move, shop and enjoy themselves. These purposes have guided our assessment of the present and our proposals for the future".

6. The urban scene in Madhya Pradesh has shown conspicuous buoyancy in the last two decades. This has essentially been the result of high growth in the industrial and agricultural sectors. There has been substantial exploitation of the vast natural resources of the State, particularly its mineral and forests wealth, establishment of the large number of industrial growth centres as a result of the policy of incentives offered by the Government in backward areas and development of irrigation command areas in eastern (Bilaspur-Raipur), central (Tawa) and northern (Chambal) zones of the State. The State has responded in a serious manner to meet the challenges thrown up by this growth. Through the provisions of a comprehensive, balanced and purposeful Town and Country Planning Act enforced in 1973, new planning and institutional arrangements have been evolved. In the report that we have prepared for the Commission we have attempted to analyse issues and problems in this behalf and given some idea of the manner in which we have attempted to meet the situation.

7. It is, however, necessary to recall that heavy investments have been made in the State in the industrial sector by the Central Government and it cannot be denied that these investments had a good economic spin-off effect. But these have considerably strained the infrastructure of the State—power, water supply, roads, railways, telecommunications. The investments made by the Central organisations to cope with the problems of urban growth around industrial units have also been inadequate. Singrauli, Korba, Raipur-Durg-Bhilai, Malajkhand and Bailadila are some such areas where the human settlements have violently disturbed the eco-system. There is a need for substantial central intervention and financial support to these areas.

8 The upsurge in agricultural growth in the command areas of Tawa and Chambal need to be exploited for developing a hierarchical system of human settlements. A massive agro-industrial base could be developed in

these areas and while Tawa could form a part of the hinterland of Bombay, Gwalior-Chambal could be developed as a counter magnet to Delhi.

9. The State is endowed with a vast versatile eco-system; water resources, forests and minerals. It substantially constitutes the water shed of a number of river systems of the country—Ganga, Jamuna, Narmada, Tapi, Godawari. It has the largest area under forest cover. Its mineral resources are next only to Bihar. However, this eco-system, quite fragile in character, has been subjected to heavy strains due to none too imaginative exploitation. There is wide ranging industrial pollution, particularly in the north eastern and eastern sectors of the State and it was necessary that a cohesive and effective policy of prevention of environmental de-gradation is evolved as a part of the human settlement policy. Some of the environmental issues relating to growth have been highlighted in two

notes recorded by the State Chief Secretary Shri KCS Acharya (Annexures 'A' & 'B'). The Commission would find them useful.

10. We, in this State, eagerly look forward to the recommendations of the Commission.

(R. C. JAIN)
Principal Secretary
to
Government of Madhya Pradesh

BHOPAL

October 9th, 1986.

INTERNATIONAL TRENDS IN URBANIZATION

The existence of urban centres goes as far back as the earliest of recorded history. Indeed, much of ancient history is a story of great cities and Imperial capitals, Urban life was obviously highly developed not only in Southern Europe, but in the Middle and Far East as well.

1.02 At the same time, urbanization as such can be viewed as a phenomena essentially of the 19th and 20th centuries. Demographic records, even of the Middle Ages, are not accurate, but it appears that by 1800, barely 2.4% of the total population lived in urban areas of more than 20,000, while only 1.7% lived in cities of more than 100,000. The Industrial Revolution of the 19th century changed this picture entirely. By 1970, 27.8% of the world's population was in cities of over 20,000, and 24% of it was in cities of over 100,000 population.

1.03 Sociologists, Economists and Demographers are unanimous in their conclusion that urbanization is directly linked to economic development in general, and some of its facets in particular. Surplus in food-grains leads to large segments of the population taking to economic activity other than agriculture, thereby making a city possible. Industrial development, favoured generally in clusters, creates job opportunities attracting rural migrants. The developments of communications and infrastructure determine not only the rate of urbanisation, but spatial distribution and relative rates of growth.

1.04 Indeed, urban population projections are now made on the basis of the rate of economic growth rather than merely demographic trends. For example, the World Development Report—1984, has projected an annual growth rate of 4.2% in the urban population of India between 1980 and 2000 on the basis of the likely growth of Gross Domestic Product of the country.

1.05 Clearly, urbanization is an essential welcome and irreversible phenomena. But within overall trends in the world, there are obviously differences between countries. These differences can be directly traced to the levels of economic development. While most of the developed countries have reached an urbanization level of 70% or more, most developing countries in Asia and Africa have only now reached a level of 25%. On the other hand these countries are undergoing a fast pace of urbanization, creating inevitable physical, social and cultural problems. Where sudden growth occurs on account of instantly obtainable technology, institutions and values do not develop at the same pace. A dichotomy is thus immediately created between the physical manifestations of economic development and the institutional arrangements to deal with them.

1.06 The process of urbanization in the developing countries is a striking example of this phenomena. Here, the fruits of advanced technology have been directly plucked, and not obtained after sustained research, development and growth. Institutions could

not, however, be borrowed in the same manner and perforce have lagged behind the pace of urban growth.

The urban mess in India can equally be traced to this dichotomy.

URBANIZATION IN INDIA AND MADHYA PRADESH

1.07 The urban population in India did not increase very sharply between 1901 and 1941, and the first decade to witness a marked growth was 1941—51, partly because of the refugees who flocked to North Indian towns in the late 40's.

TABLE—1
URBAN GROWTH IN INDIA

	Population (in millions)		
	Total	Urban	Proportion of urban to total population
1901	238.40	25.85	10.8
1911	252.09	25.94	10.3
1921	251.32	28.09	11.2
1931	278.98	33.46	12.0
1941	318.66	44.15	13.9
1951	361.09	62.44	17.6
1961	439.24	78.94	18.0
1971	548.16	109.90	19.9
1981	685.18	159.73	23.3

2.02 After 1951, several intended and unintended measures not only occasioned a rise in the percentage of urban population, but also a wider spatial distribution. Greater mobility on account of the expanding communication network, a redefinition of agrarian relations leading to changing occupation patterns, the development of new state capitals and administrative headquarters and heavy investments in the industrial sector by the Government of India, all affected the quantum and distribution of urbanisation. In the ultimate analysis, the causes for urbanisation can of course be broken down into :

1. job opportunities create by enhanced economic activity in urban areas, and
2. the ability of an urban area to provide services to a rapidly increasing population.

2.03 Madhya Pradesh, the largest state in the country with an area of 443446 sq. kms. (13.49% of the total area of the country), experienced the same acceleration in growth rate after 1941. But in the last 2 decades, the rate of growth has far exceeded the national average. Even the overall rate of population growth

in State has been higher than in India, but the urban population has increased at a much faster pace :

TABLE—2
URBAN GROWTH RATE

	Total		Urban	
	India	M.P.	India	M.P.
1941—51 . . .	13.31	8.67	41.49	33.16
1951—61 . . .	21.64	24.17	25.85	47.70
1961—71 . . .	24.99	28.67	37.91	46.63
1971—81 . . .	24.64	25.27	46.02	56.07

The total urban population in the State rose from 3.13 million in 1951 to 10.58 million in 1981, i.e. by 238% while the corresponding increase for the country was 155.81%.

2.04 One reason for this faster pace, obviously, has been the lower urban base from which the State started and the process of 'catching up' with other parts of the country :

TABLE—3
PERCENTAGE OF URBAN POPULATION

	India	M.P.
1901	11.00	8.65
1941	14.10	9.69
1951	16.62	12.01
1961	18.26	14.29
1971	20.22	16.28
1981	23.73	20.29

Urban Centres and Classification

2.05 The number of urban areas in M.P. has been growing more rapidly than in the country as a whole :

TABLE—4
URBAN CENTRES

	India	M.P.
1901	N.A.	121
1911	N.A.	120
1921	2047	122
1931	2219	147
1941	2425	174
1951	3059	202
1961	2699	219
1971	3119	250
1981	4029	327

This obviously indicates a wider spatial distribution of urban growth the reasons for which are discussed fully later. By 1981, on an average each urban centre in the State served 1366 km² i.e. an area of 20.84 km radius. For the country, the average was an area of 816 km². Of course, there are local aberrations, e.g. in Bastar and Sarguja districts.

2.06 Census methodology considers urban agglomerations in 6 categories, the highest being 'cities' of 100,000 or more, all the rest being towns and the lowest, towns of less than 5,000. Before the Census of 1961, the following areas were classified as towns or cities :

1. every Municipality of whatever size
2. all Civil lines not included within Municipal limits
3. every other continuous collection of houses permanently unhabited by not less than 5,000 persons which the Provincial Superintendence could treat as a town for Census purpose.

This definition was revised in 1961 to include the following areas only :

1. a Municipal Corporation or a Municipal area or areas under a Town Committee or a Notified Area Committee or a Cantonment Board
2. in the absence of (1) above, a place fulfilling the following tests :
 - (i) a density of not less than 1,000/sq mile
 - (ii) a population of 5,000
 - (iii) three-fourth of the male workers being engaged in activities other than agriculture, and
 - (iv) pronounced urban characteristics and amenities.

This definition did away with some of the discretion provided earlier to the Census authorities. According to the norms of the 1961 census, the number of urban agglomerations in India fell from 3059 in 1951 to 2699. In Madhya Pradesh, there was only a marginal increase from 202 to 219 (Table 5).

2.07 The population in these categories, in 1981, was as under :

TABLE—5
DISTRIBUTION OF POPULATION IN TOWNS (1981)

	India		M.P.	
	Total (millions)	% of urban	Total (millions)	% of total urban
I (100,000 above)	94.3	60.37	4.96	46.84
II (100,000—50,000)	18.2	11.65	1.9	18.00
III (50,000—20,000)	22.4	14.35	1.9	12.24
IV (20,000—10,000)	14.9	9.52	1.6	15.13
V (10,000—5,000)	5.6	3.61	0.81	7.67
VI (5,000 & below)	7.8	0.50	0.01	0.12

2.08 This categorization, unfortunately, leads to distorted results when an analysis of population distribution according to towns size is carried out. E.g., the

figures above indicate that 60.37% of India's urban population lives in Class I towns, but more than a third of this is actually in only 6 metropolitan towns. If these are excluded, M.P. obviously has a greater proportion of its urban population in larger towns than the country as a whole, accompanied by all the connected problems. This is made obvious, at any rate, by the growth in towns of various categories in the last two decades :

TABLE-6
PERCENTAGE DECADEAL GROWTH

Class of Town	India		Madhya Pradesh	
	1961-71	1971-81	1961-71	1971-81
I	52.67	56.83	90.41	65.82
II	40.94	51.22	71.42	120.23
III	29.27	28.41	22.12	9.42
IV	18.85	24.03	26.92	70.70
V	-10.38	15.44	5.88	22.22
VI	-19.70	60.74	-28.86	-54.68
Total Urban	37.91	46.02	46.63	56.07

The growth in the number of towns in each category has been as under :

TABLE-7
GROWTH IN URBAN CENTERS

	No. of Towns (MP figures in bracket)		
	1961	1971	1981
I	102(6)	145(11)	216(14)
II	129(6)	178(14)	270(27)
III	449(35)	570(43)	739(48)
IV	732(57)	847(74)	1048(119)
V	739(98)	641(96)	742(114)
VI	179(17)	150(12)	230(5)
	(219)	(280)	(327)

The decline both in number and population of Class VI towns is on account of present policies whereby villages of less than 5000 are not declared Municipal areas in the State.

Urban Density & Sprawl

2.09 The average density of urban population in M.P. was 2170/Km² (1981) as compared to 2491/Km² for the country. Within the State there is a very wide variation. A surprising fact which emerges is that some class II and III towns have a much higher density than the larger, apparently more congested cities E.G., Depalpur (Indore District) and Vidisha town had 11429 and 11239 persons/km² (1981) while Indore had only 7305. Sironj (Vidisha district) had a density as high as 31,542. What is more, the density in Class II and III towns is growing, while it actually fell in Class towns between 1971 and 1981, indicating the faster geographic growth of the latter.

The high density and congestion in Class II and III towns is a clear indicator of the fact that not enough attention has been paid to them with regard to extension of Municipal limits. Schemes for development have not been undertaken and new housing is a rare phenomena. In some areas, there is a feeling of physical insecurity in moving out of the congested old town. Lack of infrastructural development also restricts geographical expansion. There is urgent need, therefore to draw up comprehensive schemes for towns expansion, with adequate institutional arrangements.

TABLE-8
URBAN SPRAWL AND DENSITY

	1981		1971	
	Percentage Density of area to total urban area	per km ²	Percentage Density of area to total urban area	per km ²
I	31.09	3,267	30.73	3,493
II	12.25	3,192	11.66	2,260
III	6.77	3,926	16.21	2,838
IV	26.76	1,228	20.48	1,641
V	22.68	734	19.86	1,182
VI	0.45	579	1.06	924

2.10 The total area occupied by towns in the State has increased steadily :

	(km ²)
1961	1864.33
1971	2853.69
1981	4871.64

About one-third of this increase was registered in Class I towns alone. Figures for Durg-Bhilai are not available, but otherwise Gwalior has currently the largest area of 303.18 km², followed by Bhopal with 284.90.

Net addition of urban population

2.11 The increase in total urban population in M.P. has been seen in para 2.03. Of the addition of 7.45 million between 1951 and 1981, as much as 3.91 or 52.5% was in Class I towns, which grew in number from 5 to 14. The largest net increase in these 30 years was in Bhopal (0.56 million), followed by Durg-Bhilai (0.46 million). The net increase in the various classes of towns was :

TABLE-9
NET POPULATION ADDITION IN URBAN M. P.

	(millions)		
	1951	1981	Net addition
I	1.04	4.95	3.91
II	0.35	1.90	1.55
III	0.61	1.29	0.68
IV	0.47	1.60	1.13
V	0.49	0.81	0.32
VI	0.15	0.01	0.14

Spatial distribution of urban centres

2.12 Between 1951, after which the concept of 'urban' was redefined for Census purposes, and 1981, 108 new urban centres came into being in the State, the notable feature being that these were concentrated in (i) the eastern districts and (ii) the agriculturally developing areas of Chambal, Sagar and Hoshangabad. This is perhaps a measure of the success of Governmental policies of dispersal, perhaps merely a response to the developmental process. In any case, less urbanised districts in the State, by and large generated more new towns, than more urbanized ones. 9 districts out of the 45 added no new centres, 11 added only 1, 8 added 2 while Bhopal was the only district to actually lose 2 (on account of administrative reorganisation). The remaining 16 districts saw the emergence of 3 or more new urban centres, led by Chhindwara (10), Rewa (8) and Shahdol (10).

Large cities

2.13 As noted earlier, 14 of the 237 Urban centres of M.P. in 1981 were Class I cities :

TABLE—10

POPULATION OF CLASS I TOWNS IN M.P.

Towns	
Indore	827,071
Jabalpur	757,696
Bhopal	672,329
Gwalior	559,776
Durg-Bhilai	490,158
Raipur	338,973
Ujjain	281,878
Sagar	207,401
Bilaspur	186,330
Ratlam	156,490
Burhanpur	141,142
Murwara (Katni)	125,096
Khandwa	114,463
Rewa	100,421

The following points are noteworthy about these cities :

1. Three of them Murwara (Katni), Khandwa and Rewa stepped into this category for the first time in 1981.
2. They are by and large, well distributed over the state but northern M.P. (except for Gwalior), South Central M.P., the north western portion and the large area of Bastar with adjoining areas to its north, are devoid of such cities.
3. Only two districts, Jabalpur and Khandwa, have more than one such city.
4. Twelve out of the 14 are divisional and/or district headquarters, the exceptions being Burhanpur and Murwara (Katni).

No city has yet touched the one million mark, though Indore and Bhopal are likely to do so by 1991. Metropolitan characteristics have not yet appeared in the

State and only town which approaches this concept is Indore.

2.14 There are a large number of towns, however, which are on the brink of crossing from Class II to Class I.

Town	1981 Population
1. Satna	96667
2. Rajnandgaon	86367
3. Dewas	83465
4. Korba	83387
5. Chikhali Kalan (Chhindwara)	83213
6. Mandsaur	77603
7. Damoh	76758
8. Shivpuri	75738
9. Bhind	74515

Number 1 to 5 above are clearly on the brink while the others are likely to cross the 100,000 mark by 1991 on account of their rate of growth. Towns like Singrauli, where an enormous increase in population is expected, will be discussed separately.

Recommendations

- 2.15 1. States like Madhya Pradesh which are experiencing a faster pace of urbanisation than the rest of the country, and in a more diversified form, require special attention with regard to urban planning and resource allocation.
2. Class II and III towns show disturbing features such as acute congestion. Development schemes, specially of housing, are urgently required in a such towns and institutional arrangements for this must be urgently made.

IMPACTS OF POLICY ON URBAN M.P.

3.01 The comparative demographic analysis in Section I clearly indicates that

1. the rate of urbanisation in Madhya Pradesh, specially in the last three decades,
2. the rate of growth of medium and small towns, and
3. the increase in the number of urban centres, have all been greater than the country as a whole without diverging very much from the overall patterns.

These three factors are extremely important in understanding the urban dynamics of Madhya Pradesh, which can well be seen as a model for the urban future of India.

3.02 The very size of M.P. has led to a situation where there are wide regional variations within it. Broadly speaking, there is the agriculturally rich western region, with comparatively better communications, a developed industrial base and a higher level of per capita

income. In contrast, there is the heavily forested, agriculturally poor eastern half, with poor communications and lower incomes but which is a storehouse of the country's natural resources. Historically, the military and trade routes between N. India and the Deccan ran through M.P.; the heavy forests and uncharted wilds of the eastern region ensured that even the mighty Mughals left it alone. Subsequently, railway lines and the road network developed by the British also followed the old routes in general and the commercial centres that lay along them.

3.03 If urbanisation is seen as a logical outcome of economic development, Government policies, in the Indian context, obviously play a vital role. Chief among them are :

1. Investments for the development of agriculture (including irrigation),
2. public sector investment in large industries,
3. policies regarding physical location of private sector investment, and
4. development of communications.

At the same time, the creation of new administrative units and centres and various policy measures to correct regional imbalances lead to population movements on a wide scale. The reorganisation of States in 1956, the Industrial Policy Resolution of the same year, the first two 5 Year Plans all had an inevitable impact on the quality, quantity and spatial distribution of urbanisation in M.P.

3.04 The trend thus set off continued in the 60's and 70's, with the added factor of large and medium irrigation projects, the 'green revolution' increased emphasis on power and, towards the end of the 1970's, the large outlays on rural development. The 1970's also saw, in the State the first signs of private sector interest in industrial investment, the encouragement to it by the State Government and the creation, therefore, of purely new industrial areas. This was guided, naturally, by the system of incentives and disincentives begun in the 70's and crystallised by the industrial Policy Resolution of 1980, with its emphasis on industrial dispersal.

3.05 Madhya Pradesh, as observed earlier, has felt the impact of all these policies perhaps as no other State. Its vast resources are only beginning to be exploited, be they mineral, forest, water or even land. The pace of urbanisation will only grow, and a firm, realistic policy framework is of the utmost importance.

Agricultural Development

3.06 The development of agriculture in the State has been spectacular, without as yet reaching close to its ultimate potential. The State's water resources are only beginning to be tapped, follows are being brought under the plough, inputs are beginning to reach. Hitherto inaccessible areas and modern practices of agriculture are being adopted. The State is a net exporter of wheat and rice, while soyabean has created a virtual revolution in the western and central region. All this has been the result of massive Governmental

investment and effort. It has also resulted in the springing up and rapid growth of towns serving as markets, transport centres, intermediate stocking points for inputs, and service centres. In addition, these towns serve to absorb increased agricultural incomes by providing facilities for recreation and diversion. Classic examples of these are towns in the Chambal region (Bhind, Morena, Sheopur, Sabalgarh, Mehgaon) in the Tawa command area of Hoshangabad (Seoni-Malwa, Itarsi, Pipariya), and on the fertile banks of the Narmada in West Nimar (Anjad, Rajpur, Kasrawad, Barwaha). These towns perforce retain a semi-urban character, though a large number have developed small or medium scale processing facilities for agricultural produce. Larger units are, of course, trying to do balancing acts between raw material availability and state subsidies/incentives.

3.07 But while the impact of agricultural development on urbanisation appears obvious, little has been done to plan or control these growth centres. The worst sufferer has been the environment, ruined by inadequate water supply, total absence of sewerage, sanitation and municipal services, haphazard growth of processing units, the service industry and recreational facilities. The 'Mandis' or official agricultural markets are uniformly flush with funds but have no inclination or expertise to spend these on urban development. And the proliferation in such towns makes it impossible for State agencies to provide effective planning or developmental controls. The green revolution has thus created an acute and adverse impact on urban areas connected therewith. In M.P. this problem is bound to accelerate specially in the Class III and IV towns.

Public Sector industrial investment

3.08 From the early '50s, the Central Government began massive investments in the heavy industry sector. The State attracted considerable attention, naturally, because of the enormous natural resources which lay here unexploited. The result was the sudden emergence of major townships where almost nothing existed earlier. Korba was not even classified as a town in 1951 while in 1961 it had a population of 12,424. By 1981, it housed 83,387 persons, a rise of 571% in 20 years. This was occasioned by the enormous investment in super thermal power stations in which both the Central Government (NTPC) and the State Government (MP EB) participated. Even apart from the acute environmental problems of air pollution and flyash dumping, Korba probably represents the worst urban mess possible.

3.09 A similar example is that of Durg-Bhilai. Setting up of the Bhilai Steel Plant has caused the town of Durg, which had a population of 20,249 in 1951, to merge with Bhilainagar and to result in a population in 1981 of 490,214, an increase of 2320% in 30 years. The consequence has been apart from air and water pollution, urban disaster in all its manifestations, including a vast slum area. One noteworthy feature here is that Bhilainagar itself is much better looked after.

3.10 While Bhilai and Korba are instances of resource based industries for which there was probably

no locational alternative, establishment of the Bharat Heavy Electricals limited (BHEL) in Bhopal is a different case. This arose from the Government of India's policy in the 1950's to the correct regional imbalances and locate large public sector undertakings accordingly. BHEL constably accelerated the growth of the new capital city of Bhopal, specially between 1951-71. Its impact on this city has been largely benefecial and has been absorbed on account of the large investment in development of the capital region by the Government. But even so, there are two noteworthy points :

1. The inapazard development of ancilaries in the Govindpura Industrial Estate close to BHEL. This estate actually creates much more pollution than BHEL itself.
2. The strain on Bhopal's drinking water resources, since BHEL created no source of its own. The enterprise contains about 1/8 the population of Bhopal, but under agreement with the State Government, at receives a quantum of water which is roughly 50% of the total city supply.

3.11 It is obvious that large scale investments by the Government (chiefly Central) have contributed greatly to urbanisation in the State and will continue to do so on account of its untold resources. They have also led to enormous benefits not only to the country but also to the State and the local population. But they have in many cases created urban problems of a dimension probably not seen elsewhere.

The reasons can clearly be identified as follows :

1. the impacts on urban areas of such large scale investment have not been taken into consideration and no planning done to combat the likely ill effects.
2. no institutional arrangements have been made for coordination, control and maintenance. For example, in Bhilai and Korba, Special Area Development Authorities were established many years after the plants had been commissioned.
3. there has been no interaction between public sector undertakings and the State Govt., which is responsible for urban development.
4. there have been no financial inputs by the undertakings towards fulfilling the needs of the rapidly expanding population occassioned by the location of the unit.
5. while the State Govt. has to bear the brunt of the urban fall out, the public sector is blissfully unaware of these problems and pays them no attention.
6. large chunks of land were allocated by the State Government to these units, but the question of proper utilisation of such land has never been decided.

In fact, in Korba and Bhilai, the public sector has physical ownership of a vast area, but disputes the SADA's right to levy Property Tax on it. In other areas, land is grossly underutilised, ultimately resulting in encroachments or incompatible use. Similar problems in the immediate future are likely to arise in Singrauli (Sidhi district), the future energy capital of the country, in Bijaipur (Guna) and elsewhere. Indeed, the problems, in Singrauli have already become visible.

3.12 Clearly the duties of a public sector undertaking cannot end with the maintenance of its own township. It creates a great deal of pressure on existing towns, but does nothing towards relieving it.

There is an urgent need to set up cohesive planning agencies for such regions, in which the Central Govt., the State Govt., Public sector Undertakings and local institutions must participate.

Private sector industrialisation

3.13 While the public sector, to a certain extent, followed the directive of dispersal, the role of the private sector in correcting regional imbalances was emphasized only later. The Industrial Policy Resolution of 1956 did speak of spatial distribution, but investment continued to be made largely near metropolitan centres or in the more developed States. In the 1970's, partly as a result of improving road transport, power availability, better telecommunications and the growth of towns, this investment began to move towards the industrially undeveloped areas. But largely, this was the result of Governmental incentives and regulations to ensure industrial dispersal. Central capital subsidies were introduced, location in certain areas banned and the State Governments more actively involved in the entire process. Following the Industrial Policy Resolution of 1980 and the identification of districts according to levels of industrialisation, the Government's intention became clear. State Government stepped in with their own schemes of concessions, subsidies, industrial areas and estates and more active promotional efforts, including industrial finance.

3.14 The result of all this was the flow of private investment into previously ignored areas. Tehsil (taluka) places and Block headquarters began to witness the arrival of small and medium units of the footlose variety, not dependant on a specific location, sometimes relying on concessions and subsidies for viability. Similarly, developed infrastructure in industrial estates and areas attracted investment, chiefly in the small sector from local entrepreneurs. While all this did ensure industrial dispersal to a certain extent, economic forces and a lack of comprehensive planning created, in a large number of cases, urban distortions. Private investment in the larger sector did not rush to the wilderness. It settled down, instead, close to large towns, enjoying the best of both worlds.

3.15 In M.P., the prime example of this process is Dewas, the new industrial township barely 30 km. from Indore. Actively promoted in the 1970's, it fulfilled all the conditions for industrial location, and large houses moved in with considerable investment.

In the space of a decade, the following results ensured :

1. Dewas town developed an acute water scarcity because a large amount was allocated for industrial use,
2. the entire urban impact was felt by Indore, already reeling under urban congestion and inadequate water-supply,
3. land-prices in the tract between the two towns shot up, attracting speculations and other mal-practices.

Dewas itself grew by 60% between 1971 and '81, but the supervisory and managerial levels reside in Indore and a majority of the workers commute daily from there. The same pattern as in Durg and Korba can be seen here—lack of planning to cater to the needs of a rapidly growing industrial township. To add to Indore's miseries, a vast industrial complex is coming up at Pithampur, again about 30 km. away, on much the same arguments as Dewas. This will be discussed more fully later.

3.16 Another example is that of Mandideep, only 10 km. from the Municipal limits of Bhopal, but a part of Raisen district. This too, has attracted major investments in the late 70's and early 80's. Its impact on Bhopal has yet to be felt, partly because of the relatively developed infrastructure of the capital which could absorb such pressures. However, the point remains that Mandideep has developed virtually no civic amenities, and despite faithful adherence to the norms of industrial location, all the pressures created by Mandideep will be felt by Bhopal.

3.17 These two examples illustrate several facts :

1. A mere definition of backward or no industry districts is not sufficient to ensure the desired industrial dispersal. Proximity to large urban areas has also to be taken into account.
2. At the same time, declarations of intention to ensure such dispersal are meaningless unless infrastructure is adequately developed.
3. Even where satellite towns are meant to be created, rigorous plans have to be drawn up and enforced to see that urban services keep pace with population growth.

Administrative Centres and localised activity

3.18 Bhopal, the State capital, has borne the twin impacts of sudden administrative importance and establishment of the BHEL. Its population increased by 117.87% between '5' and '6' by 72% in the next decade and 75% in the last. On a similar scale, administrative headquarters like Raisen, Bilaspur, Jagadapur and Sidhi show similar growth. There are numerous other towns which have expanded rapidly on account of a particular, localised activity. E.g., towns in the coal bearing districts of Sarguja, Sidhi, Shahdol and Chindwara, the iron-ore districts of Durg and Bastar, Nagda (Ujjain) and Amlai (Shahdol) on account of large (private) industrial investment, and

the tourist attraction of Khajuraho, have registered sharp increases in population, though not consistently.

Development of communications

3.19 It had been noted earlier that from medieval times, communications between north India and the Deccan ran through western M.P., leaving large central and eastern M.P. portions untouched. The situation is slightly better today with the development of road transport. It is not surprising that out of the 14 Class I cities in the State, 13 are served by railways, and the sole exception is Rewa (the smallest). Of the six largest cities, 5 have air service (Indore, Jabalpur, Bhopal, Gwalior and Raipur). The sixth, Durg-Bhilai, is very close to Raipur. Of these six towns, 4 are major road transport centres (Indore, Jabalpur, Gwalior and Raipur). All this probably amounts to stating the obvious that communications are a major factor in urbanisation. But the illustration of this in M.P. is rather striking.

3.20 Industrial dispersal will, of course, have communications as limiting factor. For example, Ratlam has attracted a great number of sophisticated chemical industries because it is on the main line (Western railway between Bombay and Delhi). Indore, Bhopal, Gwalior, Jabalpur and Raipur are on major cross-country lines, apart from being civil airports. Satna has attracted major industrial investment because, apart from the rich limestone belt around it, it is an important railway junction.

3.21 It is a pity that though this is the largest State in the country, lying in its centre, and communications between north and south and east and west should logically run through it, there has been no increase in the length of railway lines in the past 10 years. The effort, on the other hand, has been on track-doubling and electrification. Several routes have been surveyed, for example Khandwa—Baroda and Guna—Etawah. The Planning Commission, however, does not appear to have allocated adequate funds for any of the new lines proposed. The total length of national highway in 1956 was 2140 Km., which increased marginally to 2676 Km. in 1980-81. Even this increase is partly because of declarations of new highways rather than actual construction. Exact figures are not available but it appears that in the last 30 years, hardly 12 Km. of highways have been constructed. Of course, there have been major upgradation works on existing highways.

It is clear, therefore, that for quite sometime to come, the State will have to remain dependent on the existing network of physical communications. As far as telecommunication is concerned, the State has made substantial progress in its telephone network though it requires considerable strengthening to make it effective and responsive. Telephone facilities even in the major towns remain semi-urban in character. Telex facilities are available only in the major towns, in a limited number.

Rural Development

3.22 The creation of employment opportunities in rural areas has always been considered an effective

measure to control urban ward migration. Such opportunities can consist not wage-employment but of cottage industry and development of skills for income generation. In the late 70's, these programmes received a tremendous fillip, starting with 'food for work' and going on to the Integrated Rural Development Programme (IRDP), the National Rural Employment Programme (NREP), Training for Self-employment (TRYSEM) etc. Now, wage-employment in rural areas is virtually guaranteed while opportunities for training in various skills and trades are widely available. Institutional finance and subsidies are readily available for setting up trades and petty businesses.

3.23 The establishment of District Industries Centres in 1977-78 was meant to promote the small scale sector in rural and semi-urban areas. These Centres were not only meant to organise small scale industry, but to promote it through developing areas, work sheds, etc. and by providing institutional finance in a limited way. Large programmes of silviculture development have been effectively carried out.

3.24 At the same time, adequate emphasis is being placed on the satisfaction of minimum rural needs such as drinking water, housing and electricity, with large budget allocations right from the V Plan. Much of the employment programmes is directed towards the development of roads and the creation of permanent assets such as school buildings and community centres. A programme has recently been launched for housing for Scheduled Castes and Tribes, completely subsidized and generous in concept.

3.25 The impact of all this has yet to be felt. Between 1971 and 1981 urbanisation was only accelerated and the proportion of urban to rural population grew. It is far too early to assess the success of this programme except for the stability of food grain prices and creation of assets.

The Government of India should undertake an independent assessment of the impacts of rural development programmes, specially from the point of view of rural to urban migration. Modifications in the programme can then be made, if necessary, in order to disperse employment opportunities.

Urban Projections

3.26 The World Development Report, 1984, predicts an annual growth rate of 4.2% in the urban population of India during 1980-2000, much higher than the rate of 3.5% between 1961 and 1981. At this pace, the urban population in 2000 AD would be 353 million or 35.5% of the total projected population. The VI Five Year Plan, however, estimated the increase at a rate of 2.9% between 1980-1996, by when the urban population would be 25.4% of the total. Both the Planning Commission and the World Bank have used economic indicators to assess the likely rate of urbanisation and obviously the World Bank expects a faster rate of economic growth than our own planners.

3.27 The VII plan envisages an urban population of 315 million by the year 2000, 32% of the total projected population. It also envisages the continuation of the trend of expansion in larger cities, and concludes that

"..... the policy thrust in the perspective period would have to be to moderate the growth of the cities with million plus population through a well-defined policy of diversion of the migrant population towards smaller towns and cities".

This policy includes revitalisation of municipal bodies, mobilisation of resources for urban development and housing, speedy development of land, employment promotion, industrial and transport policies. The Plan document fully realises the magnitude of the problems urban India is likely to face.

3.28 In MP, the pace of urbanisation has been faster than in the rest of the country as a whole, and this difference is likely to continue for quite sometime. The vast mineral resources of its eastern region, the untapped rivers and the vast improvements being brought about in agriculture will ensure speedier urbanisation. Industrial investment will continue to be attracted by the easy power attraction and the peaceful industrial climate. On this assumption, the urban population of the State is likely to be about 28 million by the year 2000. A World Bank assessment in 1982 projected the urban population of the State in 1991 at 15.9 million or 26% of the total population. The annual urban growth rate was projected at 6.7% between 1981-91, against the overall growth rate of 2.3%. Further, the growth is likely to be concentrated in larger towns. However, the peculiarity of the State is that new townships are likely to spring up where none existed before. The World Bank has noted that

"..... other towns expected to receive major investments in either industry, mineral development, or energy generation will also grow but somewhat later in time, according to the scheduling of these investments".

3.29 The highest rate of growth is likely to be in the Indore, Ujjain and Dewas and Raipur, Drug Bhilai agglomeration, and it was on this assumption that the World Bank—HUDCO assisted urban development project has been launched in these 6 towns at a total cost of Rs. 48 crore. The project includes development of house sites, offsite sanitation and slum upgradation to benefit about 55,000 families directly.

Special problems in the State

3.30 The impacts of policy on urbanisation had been mentioned earlier in the case of Korba, Drug-Bhilai, Bhopal, etc. (para 3.08-3.12). Entire new townships of lakhs upon lakhs have been established in the space of a few years with no accompanying investment in infrastructure development. Private sector investment encouraged by Government policies has similarly caused an expansion in towns without basic services being enhanced. This problem is likely to be experienced again perhaps on a large scale. Two cases are being considered here—Singrauli and Pithampur.

1. Singrauli

The enormous coal reserves in Singrauli had been known for years, but lay untapped because the quality of coal was reportedly poor. As a result of economic imperatives and the power needs, the Govt. of India have decided to set up super thermal power stations here rapidly. In the space of 10 years, 12 such stations are to be set up, and the area is already designated as the future energy capital of the country. This will naturally be accompanied by extensive mining of coal. It is estimated that Singrauli, classified as a village a few years ago, will reach a population of about 10 lakhs in the next 15 years. This is urban explosion unimaginable in normal circumstances. Yet, the public sector agencies involved the National Thermal Power Corporation and Coal India—seem blissfully ignorant of the problems they are creating and of the urban future of Singrauli. In fact there is much a total lack of coordination between numerous agencies that at one time there was a proposal to make Singrauli a Union Territory, specially since it lies partly in M.P. Even if a strong coordinating agency manages to prepare an imaginative development plan, there will be the problem of resources to execute this. Major policy decisions will be required to make public sector agencies responsible for funding execution of the development plan.

2. Pithampur

Industrial dispersal policies of the Govt. of India and the State Govt. have resulted in attracting a vast amount of private sector investment in Pithampur, an area between Dhar and Indore. It is estimated that there will be an investment of Rs. 400 crore in the space of 5 years. This investment will be entirely industrial, and not even an assessment has been made of the urban infrastructure which has to be developed. Infact, only recently has it been declared a planning area under the Town & Country Planning Act. The problems here are two-fold :

- (a) to provide the service which would be required by the industrial township, and
- (b) to mitigate the impact on Indore, which is already reeling under its own pressures, and the proximity of Dewas, another industrial township.

The fear is that by the time a plan is drawn up for Pithampur events will have overtaken us. Even if a plan is drawn up in time, there is again the question of resources, which in this case should be found from the private sector.

3.31 Recommendations

1. Agricultural development creates pressures on growth centres which serves the hinterland but development programmes pay no attention to this. It is essential that a portion of the funds on agricultural development be allocated for developing the infrastructure in such towns. This will ultimately help agricultural development also.

2. Public sector industrial investment must be recommended by detailed town planning measures to absorb the pressures on existing townships which expand rapidly, Institutional arrangements must be made well in advance and should be incorporate participants by the central and the State Govt. the Public Sector undertaking involved and local agencies. The Public sector must continuously participate financially in urban development, whether by direct grants or by submitting to local taxation.
3. Growth centres for private investments in industry be located so as not to create pressures on neighbouring cities. Such growth centres must develop adequate urban services as a part of the development process.
4. Engagements must be given to the growth of small scale and Cottage industries in Class III or even Class IV towns so as to prevent inter-urban migration.
5. The development communications must take into account its impact on the spatial distribution of urban centres. Better communications inevitably make migration unnecessary for a number of people. Madhya Pradesh needs a much better investments for the development of communications by the Govt. of India.
6. The Govt. of India should carry out an independent assessment of the impact of Rural Development policies on urbanward migration. This will enable it to judge the results of the vast outline be made on Rural Development.
7. Madhya Pradesh has special problems in areas such as Singrauli, Pithampur, Bijaipur (Guna) on account of enormous public sector investments in a short space of town. These areas required concentrated, coordinated and urgent planning if a mess such as Korbator Bhilai is to be avoided.

INSTITUTIONAL ARRANGEMENTS

4.01 The institutional arrangements for urban management in the country have a unique feature. The existence of an integrated, comprehensive and well knit city government is completely absent. This is partly due to historical reasons and partly because it has been found difficult to amalgamate or abolish the existing institutions. The various agencies which are involved in the management of urban areas are more or less uniform all over the country, though there is considerable variation in jurisdiction, effectiveness, emphasis and competence. This applies not only to the State level planning or executing agencies but to the development or regulatory institutions at the local level also. One noteworthy feature is that there is probably no subject which is so purely a State Government responsibility. There is no Central legislation in

the context of urban control and development, except for the Urban Land Ceiling Act (1976).

4.02 At the Government level, though almost all the States have departments of Housing, Urban Development, Local Govt. and the Public Health Engineering (concerned with Urban Water Supply Schemes), functioning of these departments are not uniformly co-ordinated either at the level of the Secretary of the Minister.

At the state level, the uniform practice is to have a Directorate of Town & Country Planning, a Housing Board and a Directorate of Local (Urban) Government (or Urban Administration). Some states have a Slum Clearance and Improvement Board, a separate Water and Sewerage Board etc.

At the local level there are, of course, the Municipal Committees and Municipal Corporations, and in some States Cantonment Boards and Notified Area Committees (NAC's) have also continued. Town Improvement and Development Authorities have now been set up in varying numbers in almost all States. Then there are the Metropolitan Development Authorities which may be very active as in Calcutta and Madras, or dormant as in Bangalore.

4.03 In the overall pattern of urban institutional arrangement in the country, the following facts emerge :

1. There is a multiplicity of organisations responsible for urban management with functions of
 - (a) planning.
 - (b) development (including housing and slum clearance or improvement).
 - (c) land management.
 - (d) services, and
 - (e) maintenance.
2. Consequently there is conflict of jurisdiction, a lack of coordination and a general impression of irresponsibility.
3. There is no clear distinction between responsibilities of the Government and those of the local body or authority. Water supply, power and the maintenance of roads are prime examples.
4. Municipal Bodies have been reduced to the job of urban maintenance while developmental functions have been taken over by State or local agencies such as Housing Boards and development authorities.
5. Except in some metropolitan areas, there is no single agency responsible for public transportation or traffic management. There is no uniform policy about the licensing of public transport vehicles run by private agencies or individuals.

6. Another noteworthy feature is that in the larger and more backward States, there is an acute shortage of trained personnel in the field of municipal maintenance, or urban planning and management. What is more, training facilities are virtually absent, not to speak of under-graduate courses in these fields.

4.04 The complete freedom of setting up institutions and allocating jurisdiction between them, has thus led to such a wide number of permutations and combinations. From the Government of India's point of view, it is impossible to make an assessment of urban progress or policies in the States or to make a comparative analysis.

Institutions in M.P.

4.05 The State has, basically, the same institutional framework as other States, for urban affairs. The enactments under which these institutions function are :

1. The Municipalities Act of 1961 and the Municipal Corporations Act of 1956, under which municipal bodies are created and function. The former also provides for Notified Area Committees (NAC's) though this is now an abandoned concept. The Acts are identical with Acts in other States. Corporations are given wider and more comprehensive powers by their Act than Committees.
2. The Town & Country Planning Act 1973 (T&CP Act), similar to other Acts in the country. This provides for the setting up of Development Authorities and Special Area Development Authorities (SADAs) for the implementation of development plans. SADA's are an innovative concept, described in Para 4.07 below. The Act lays down the functions and jurisdiction of these Authorities.
3. The Town Improvement Trusts Act, 1960, under which Town Improvement Trusts (TITs) are established. The Act is older and now being forgotten in view of the T&CP Act of 1973. But it provides more powers to TIT's than Development Authorities enjoy, e.g. of land acquisition.
4. The Slum Improvement & Clearance Act, 1976, based on the Bombay Act, is powerful in its scope but the procedures are rather cumbersome. The Slum Clearance Board is a creation of this Act. This Act, moreover, has fallen by the Side in the wake of the 1984 Act in MP¹ which granted tenure to the urban landless squatters.
5. M P Housing Board Act, 1972 established the State Housing Board in its present form. It fixes the duties and powers of the Board and provides for close, strict supervision by the Govt. With the creation of a separate Rural Housing Board in 1981, the functions of the MPHB have become limited to urban areas.

¹The 'Madhya Pradesh Nagariya Kshetran Ke Bhoomihin Uyakti (Patladhriti Adhikaran Ka Pradhan Kiya Jana)' Act,

Local Agencies

4.06 Local urban government in the State is provided by 305 Municipal Committees and 17 Municipal Corporations (The 14 NACS are now being all converted into Municipalities, but Cantonment Boards continue in a few towns). Under present policy, new Municipalities are set up only where the population exceeds 5000.

The Corporations are much more powerful than the Municipal Committees, the latter being subjected to controls even by district and divisional officers. It cannot be denied that Municipal government in the State as in the rest of the country has been continuously deteriorating. There are several reasons for this :

1. The creation of development authorities etc., which have taken away developmental functions from Municipal bodies, and relegated them with mere maintenance operations.
2. a general lack of funds occasioned both by an unwillingness to tax and lack of a firm policy about devolution of funds from the State to the local level.
3. lack of coordination between various agencies including the planning organisations,
4. lack of trained personnel, and
5. the emphasis on providing employment at the cost of efficiency.

4.07 The creation of urban development agencies as distinguished from Municipal bodies came in as a concept at the end of the 19th century, with the setting up of the Bombay Improvement Trust in 1898. The first TITs in this State were created after the Act was adopted in 1960. When the T&CP Act 1973 came into force, some of these TITs were converted, into Development Authorities while others continued to this day. The functions of both institutions are much the same though there is some difference in legal powers. A new concept introduced in the State was that of SADAs, to tackle specific problem areas. Three kind of SADAs have been created :

- (a) in towns of historical, cultural, archaeological or religious importance such as Sanchi, Khajuraho or Amarkantak,
- (b) in towns experiencing rapid industrial growth such as Korba, Durg-Bhilai, and
- (c) in towns requiring special attention for other reasons, such as Pachmarhi and Bhedaghat.

SADAs have the special feature of combining planning, development, and municipal functions. The State has at present 25 Development Authorities, 25 SADAs and 15 Towns Improvement Trusts.

4.08 Except for the larger Authorities such as Bhopal, Indore or Jabalpur, well established TITs like Neemuch, Burhanpur or Ratlam and SADAs which have suddenly received a large quantum of funds such as

Singrauli, Chanderi and Durg-Bhilai, other institutions have failed to do anything at all. On the other hand, they have taken away many of the developmental functions of Municipal bodies. In view of this, the State Government have recently decided to stop the proliferation of such small and weak institutions.

State level

4.09 At the State level, there is a Directorate of Town and Country Planning with the usual responsibilities and powers. This has regional and sub-regional offices but is under-staffed to tackle this vast State, where urbanisation has been so rapid. There is the Madhya Pradesh Housing Board with Statewide jurisdiction, and a Slum Clearance and Improvement Board has become operative since 1981 (though more as an agency for routing funds than for clearing slums). There is the Directorate of Urban Administration, which is expected to control and direct Municipal committees, but not Municipal Corporations, which all deal directly with the State Government. Finally, there is a Directorate of Urban Welfare, specifically created to deal with the welfare of urban slum dwellers.

4.10 Power is the responsibility of the Madhya Pradesh Electricity Board while water supply and sewerage is that of the Public Health Engineering Deptt (PHED). In the Madhya Pradesh system, the PHED constructs water supply and sewerage schemes on behalf of the Municipal bodies, which are then expected to take them over for operation and maintenance.

Government Departments

4.11 At the Government level, till 1983 the Department of Housing and Environment and the Department of Local (Urban) Government were under the charge of the same Secretary. In that year, the State Government created a separate Department of Urban Welfare to deal purely with the problem of urban slums. In 1985, the charges of Housing and Environment and Local Government were delinked and Local Government was clubbed, instead, with Urban Welfare. The situation now is that the Housing and Environment Department is responsible for housing, pollution control and general environmental matters. Town and Country Planning and urban development (excluding slums), but not for Municipal bodies. Water supply has always remained the subject of a separate department, i.e. the PHED. And, even in urban areas, continues to be dealt with by the Revenue Department. It is clear, therefore, that even at the Government level coordination becomes a difficult proposition.

Innovations in M.P.

4.12 Apart from SADAs mentioned above, the State has established the 'Vikas Pradhikaran Sangh' (VPS) a federation of Development Authorities SADAs and TITs. This is meant to provide technical and planning assistance to its members, which need not then, develop independent and expensive expertise in certain fields such as project formulation and procurement of institutional finance. The VPS in an attempt

to overcome technical and personnel inadequacies of small and weak institutions. Of late, it has begun operating in close coordination with the Directorate of T&CP and has been financially strengthened.

4.13 A more successful experiment has been the Environmental Planning & Coordination Organization (EPCO), established in 1981 as a semi-autonomous body under the Housing and Environment Department. This is a multi-faceted, multi-disciplinary organization with considerable flexibility, receiving the full administrative and financial support of the State Government. Basically, it is meant to serve as the principal environmental advisor to the State Government. Its Research division engages in environmental impact assessments of industrial or irrigation projects, analysis of regional pollution or stress problems, etc. Its Planning Division operates both at the macro and micro level of environmental planning. It has undertaken a large number of projects all over the State for environmental upgradation in urban areas, the full impacts of which cannot as yet be analysed.

Planning and Development

4.14 The Directorate of T&CP is rather inadequately understaffed and distracted from its primary functions. It has offices only in 17 out of the 45 districts. Regional and sub-regional officers have an impossibly large area to cover, communications being as under-developed as they are. There is no agency to share the Directorate's burden except, notionally the SADAs which have no expertise of any nature as far as town planning is concerned. In spite of this, town-planning achievements, so far, are quite impressive.

1. Development plans finally published	8
2. Draft plans published but not finalized	7
3. Existing landuse published but plan not drafted	24
4. Planning Areas declared but landuse not published.	52

Still planning process has touched only 39 of the 327 urban areas. Development has raced ahead of master plan projections. Revision exercises in the 8 plans finalized so far have been commenced only in Bhopal, Raipur and Indore. Country or regional planning has not even been initiated so far in the State.

4.15 The under-staffed Town Planning Department is not able to cope with the quantum of work required to be done. The delays involved between first declarations as planning area and even the publication of a draft plan are considerable so that the published landuse plans end to get outdated. In fact, a vicious circle is created if the planning process is started in too many towns, because after a certain stage town planning clearances are required, and officers became busy with this aspect rather than finalizing plans.

4.16 Where town planning itself is beset with so many problems, the aspect of subsequent controls is even more neglected. A development plan obviously

losses meaning unless it is vigorously enforced. But this function of the Town Planning Department tends to get ignored. The Department has neither the manpower nor the legal expertise to effectively detect violations or act against them.

4.17 In MP, as in most States, the preparation of plans is institutionally separated from the physical implementation thereof. Under the T&CP Act, execution is the responsibility of Development Authorities and SADAs. Similarly in TITs areas these functions are performed by these bodies. However, 'policing' powers remain with the T&CP department. This separation of functions, leads to the following results :

1. Development Authorities do not have a proper understanding appreciation of the master plan, or their own *raison d'être*, which is the execution thereof.
2. Normally starting off with no funds of their own and no taxation powers, their only course is to take up financially viable schemes of housing and commercial complexes. The motivation by and large, is the generation of funds to implement those portions of the master plan which provide the authority some income. However, this invariably leads to a loss of perspective and an overlooking of basic objectives. These compulsions force the authority to concentrate attention on new areas, at the cost of the old towns. The DDA is a classic example of what has been said here, although it did have the massive resource of land. Thus, like the DDA, most authorities develop a commercial profit oriented outlook neglecting, by and large, their basic objectives of master plan implementation.
3. At the same time, they take away the urban development functions of municipal bodies and ignore the needs of the older part of towns. Inevitably, this results in mismanagement of land and a situation of conflict between the two bodies, ending in squatter settlements, deterioration in municipal services and a general impression of lack of co-ordination.
4. Inadequate policing, since the development authorities have no legal powers and the T&CP is under-staffed as well as attitudinally unoriented to this function.

4.18 Special Area Development Authorities combine planning, development and maintenance functions. They are expected to independently prepare development plans and to execute them. At the same time they replace municipal bodies and carry out maintenance functions, being enabled thereby to impose and collect taxes. It has been noticed, however, that the demands of maintenance become so heavy that these bodies can carry out no planning or development functions. Some of the SADAs have been overwhelmed by problems which even very strong institutions may have found hard to tackle. Instances are, Korba,

Singrauli and Durg-Bhilai where SADAs have generated considerable funds, but are unable to carry out planning functions. Other SADAs are extremely weak and can do little except collect passenger tax and employ municipal staff.

4.19 Planning and development functions have not been combined in any other agency in the State, and in fact, in not many agencies in the country. The dangers in uniformly linking planning functions with implementation are that the agencies may take a narrow, localized view and may also cater to vested local interests rather than the demands of urbanization in a regional context. It would appear, therefore, that atleast in the context of large and medium towns, planning functions should continue to be separated from development functions, at least locally. However, it is essential that agencies meant to execute the plans are not only involved in the planning process, but are given clear directions about their objectives. Subsequently, they would require constant supervision and control. They must also take over policing functions, since they are better located, organized and oriented to an activity of this nature.

In other words, it would be advisable if not only the physical but the legal implementation of the development plan were directly assigned to these local agencies. The T&CP Deptt would then be free to concentrate on and speed up its planning activities.

Recommendations

- 4.20 1. The Govt. of India could prepare a model for administrative arrangements at the State and the Directorate level to prevent segmentation, fragmentation and dilution of responsibility regarding urban development, and to ensure proper monitoring and evolution.
2. Municipal bodies must be given only the task of maintenance of services. Legislative changes should be made, if required, towards this end.
3. The functions of urban planning and implementation of a plan must continue to be separated. However, Development Authorities should be established before a plan is formulated so that they can actively participate in the planning process.
4. The planning process must be carried out in detail right down to the zoning plans, architectural controls, etc. After this, the operation both in legal terms and in physical control should vest with the Development Authorities. The Town Planning Department should be relieved of the task of building permissions and of policing. But this can be done only if the development plan itself is detailed and clear.
5. providing of services should continue with Govt. Departments as at present with maintenance functions after completion being assigned to Municipal bodies.
6. Slum improvement and clearance should be the responsibility of the Development Authority and the Slum Improvement Board should only be a financing institution.
7. There should be strict control on the setting up of financially and technically weak authorities at the local level.
8. The Govt. of India must set up institutions in the State for degree course in town planning, urban management, urban economics, municipal engineering and maintenance, municipal finance, etc. This is extremely necessary in view of the acute shortage of qualified and trained personnel in the field of urban development.
9. The Town Planning Deptt of the State has to be considerably strengthened, expanded and upgraded in order to meet the urgent requirements of urban planning. The planning process has to be speeded up dramatically in order to make it realistic. At the same time, it has to be locally completed in terms of zoning or sub-divisional plans, etc. The Deptt must be relieved of its work with regard to building permissions and implementation of the Town Planning Act in the 'post development-plan phase.
10. Development plans must take into account the pressures on the older parts of towns and development authorities must be compelled to invest a certain minimum amount in such areas.
11. Development plans must have a detailed section on financial implications, phasing and available resources.

THE MANAGEMENT OF URBAN LAND

5.01 Land has always remained the most crucial consideration in urban planning and management. It determines the profile of city not only visually but in terms of its economics, its growth and its environment. Policies regarding land are determining factors in the emergent urban form, the development slums, the quality of life and environment, the adequacy of services, the standards of traffic and transportation and, ultimately the pace and nature of economic growth of the town.

5.02 Land is a scarcer resource in India than in many other countries in 1981, the land-man ratio was 0.48 ha, compared to 0.95 in China, 4.07 in USA and 8.37 in USSR (among the large countries). In MP, however, the ratio stands at 0.85 ha, though the faster population growth here is bringing about a rapid reduction in it. Moreover, the state has such varied physical characteristics that the ratio differs sharply from area to area. The least is in Indore district (0.27) and the highest, predictably, in Bastar (2.12) Urban densities in MP have been discussed in Para above.

5.03 Governments seek to control the use of urban land in several ways.

By direct legislation

1. It is a fundamental tenet in India that all land belongs to the State, though this is more an expression of sovereignty than of proprietary intentions, and a legal fiction to enable rent recovery. Freeholds and long term leaseholds are as fully owned by individuals as is possible.
2. However, the State reserves the right to interfere in this ownership through acquisition, possible under the original Act of 1894, recently amended to facilitate proceedings. This Act is fundamental to land management and is used extensively, whatever the end result.
3. The Urban Land Ceiling Act of 1976 restricts the area of individual holdings in larger towns. Primarily this was an egalitarian measure, a translation of the Agricultural Ceiling Act to Urban conditions, but was also meant to influence land prices. For various reasons, the Act has not brought about a significant change in urban land availability.

By indirect legislation

5.04 Land use in Urban areas is governed by the development plan (where formulated), under the State's Town and Country Planning Act. This is fundamental, of course, to all urban growth issues—spatial relationships, densities, the environment, land prices, housing, creation of slums and even, to an extent, the functioning of services (2) Diversion of land use even where there is no development plan, is controlled by law, while (3) Municipal laws govern the details of actual building activity such as orientation and inter-building relationship, waste disposal, safety, visual obstruction etc. (4) Municipal control also extends to land use in the sense of permission to industrial units and commercial undertakings.

By taxation

5.05 Taxes, duties and levies play a major role in the ultimate configuration of a city. Property tax, registration and stamp duties, wealth tax, diversion rates, development charges and even Income tax determine the nature, location and quantum of investment specially in housing, but also in commercial properties.

5.06 Town Planning is basically an exercise in controlling the use of land. Development plans seek to specify the user to which an entire area or a specific portion thereof may be put. Ultimately, it is the planner's vision of urban dynamics, as applied to a specific situation, that should determine the nature of town growth where a planning exercise has been done. But there is the vital factor, thereafter, of implementation in letter and spirit alongwith adjustment to unfor-

seeable needs. Unless development plan preparation and its implementation are dovetailed, the result will be the urban mess visible all around us.

5.07 There are 3 options available with regard to the management of urban land :

1. Bringing open land into public ownership,
2. promoting and assisting cooperatives, and
3. private development.

The last two options are available only for construction activity in the housing, commercial and certain selected professional services sectors, (educational institutions, hospitals, etc.). Infrastructural development has naturally to be undertaken by public agencies. The past few decades have been all 3 options being exercised with of course various permutations and combinations.

5.08 The most educative exercise has been that of Delhi. The explosion in population in the '40s and '50s had caused several disturbing developments :

1. Agricultural land being diverted on a large scale for residential or commercial use by private investors, leading to massive speculation and a skyrocketing of land prices.
2. The mushrooming of colonies which lacked basic facilities and could not be absorbed into the complex of municipal services.
3. Lack of planning controls.

5.09 The Government of India in 1951, provided a new thrust—the first such instance in India by deciding to acquire all urbanizable land in and around the capital, in order to develop it through public agencies. The Delhi Master Plan envisaged acquisition in 2 phases, 28,070 acres in the I (1961–71) and 35,130 in the II (unspecified period).

In practice, 74,367 acres had been notified for acquisition by March 1977, but only 40,381 acres were actually acquired and possession was taken over 36,260 acres. Over 75% of this was transferred to the DDA, and the remaining to Government agencies, cooperative societies, etc. From the 27,725 acres it got till March 1977, the DDA was able to develop only 15,251 acres.

5.10 This large scale notification and freezing of land use, acquisition of only a portion and development of only a segment has led to several clearly observed results :

1. A locking up of scarce Government funds by non-development and, therefore, non-disposal of a large portion of the acquired land,
2. reduction, paradoxically, of land availability causing an un-precedented rise in land values in the capital,
3. unauthorised colonization in peripheral areas as the population grew,

4. large scale squatting on undeveloped, neglected public land, and
5. An acute housing shortage.

Another aspect worthy of note is that in developed areas, higher income groups concerned a major chunk of land, defeating the very purpose of such large scale acquisition and development. The DDA itself developed a commercial outlook, and used its monopolistic power for profit rather than equitable distribution of land.

5.11 In the Delhi experiment, the best of intentions have ended in an artificial scarcity of land, frightening escalation in land value, inequitable distribution, a massive squatter problem and an acute housing shortage. Primarily, this was because of the inability to achieve the necessary pace in development of the acquired land, and of faulty disposal and pricing policies.

5.12 As far as cooperative and private development is concerned there are the inevitable problems of :

1. Substandard and inadequate development.
2. speculation, specially in cities which have received a sudden development impetus, such as Indore or Jaipur,
3. in this case also, concerning of land by the upper and upper middle class,
4. non-development of internal services or facilities, such as convenient shopping, service roads, solid waste disposal etc. and
5. unauthorized colonization.

These evils, of course, are largely caused by the incompetence or indifference of local bodies, and the general difficulty of enforcing laws.

5.13 In the case of private development even authorized and approved colonies rarely conform to minimum standards, and Municipal bodies refuse to take them over. Unauthorized colonies had become a recurring problem in MP, as in other States, in towns where large scale acquisition was not done. An enactment of 1982, meant to deal with specific corrupt practices, has a special section, in fact, on unauthorised colonization. The penalties contained therein are extremely lavish, not only for the colonizer but also for the authorities which connive or permit by default.

5.14 Another aspect of encouraging only private development is that of infrastructural needs. Major, trunk services have, perforce to be provided by public agencies which, as seen above, are oblivious of this duty. But they do manage to achieve some development as a part of housing colonies or commercial complexes. To ask them to only construct roads, sewers and parks might not be possible in present circumstances. There would also be the question of cost allocation to residents and beneficiaries. Thirdly, private investment does not cater to the lower income groups and economically weak sections.

5.15 It will be clear that urban land policy will have to be highly flexible and dynamic, because it deals with a dynamic situation. But whether it be large scale acquisition for development by public agencies or encouragement to private investment, it is essential that :

- (a) The limitations of planning, implementation and control agencies be realized and, consequently,
- (b) their ability and competence be ensured.

Policy decisions are only one side of the coin. The other side is the role assigned to public agencies to execute them. Secondly, whether it be through public agency development or private investment, lower groups are edged out of the race to own urban property.

The Land Acquisition Act

5.16 This Act has faced much criticism, both from public agencies which feel helpless about the delays inherent in its procedures and the people, who see it as arbitrary and high-handed. The crux of the issue is that the Act was primarily conceived for a rural context where :

- (a) prices of land were stable, and delays had marginal impacts on the fairness of compensation.
- (b) land records were well documented, and
- (c) values could be easily determined according to quality of soil and valuation of properties.

In the modern urban context, none of the above holds true. Compensations are too high or too low, depending on the side of the official desk from which they are viewed. Values are difficult to determine because quality of soil is hardly a consideration and location is of paramount importance, permitting much discretion in assessment. Also, value may vary on account of the use to which the land is to be put. Lastly, land records in urban areas are not only ill-maintained but often a matter of dispute between local bodies. Urban land acquisition has therefore, become a painful tardy process leading to several kinds of malpractices and endless litigation. One solution could be to have a separate Act for urban areas, eliminating the tedious processes of the existing legislation, and limiting judicial intervention.

5.17 As mentioned earlier, detailed zoning plans have hardly been drawn up anywhere in the State. However, Land Development Rules were published under the Town and Country Planning Act in 1984 to control development and to ensure uniformity in procedures with regard to layout approval, floor area ratios, etc. The rules cover redevelopment and renovation sub-division of land, designs, construction etc. They also provide for inspection during construction and completion certificate. Primarily designed to regulate and control micro-level development, the rules again suffer from a certain rigidity

and do not account for the vast variation in urban conditions in the state. There is also some conflict with rules which can be published as corollaries of development plans of specific cities.

Disposal of Land

5.18 Land being perhaps the most important resource available with urban development agencies, its disposal engages much of their attention and determines several factors in urban growth. The location and mix of income groups in housing, utilization of land in terms of floor area ratio, the visual urban profile, etc., can all be traced to policies regarding land disposal. As seen earlier, some agencies such as the DDA, tend to acquire a purely commercial outlook resulting in escalation in land cost, and inequitable distribution. The system of auctions has this direct result. Despite the Government's intention to provide affordable land, the fact remains that a house site in an urban area continues to be beyond the reach of the lower income group of society. This is despite policy decisions such as plot size, cross subsidies in composite schemes, lower levels of development etc. Of course, the issue is linked up with others, such as housing finance and taxation policies. Allotment to Government and Semi-Government organizations is also done recklessly and all their fanciful projections of future expansion are admitted without much of verition. Consequently, in almost all towns, large tracts of unused land are visible in Government premises. Where these are not protected adequately, encroachments also occurs, e.g. in the BHEL area in Bhopal. This smacks of irresponsibility, both in the agency allotting the land and in the user, and a wastage of scarce urban land.

Tenure

5.19 Nationally, the State owns all land, thereby enabling it to recover rents and control use. But where it is actually held by public agencies, there arises the question of tenure when it is disposed off. Uniformly, the practice is to transfer it on a long term lease, normally for 30 years. This amounts to a freehold for all practical purposes, but also enables the State :

1. To control transfers in accordance with the terms of the lease, thereby largely eliminating speculation,
2. to review the quantum of rent at the time of renewal, and
3. (by including a resumption clause) to impose building controls.

This system suffers in implementation rather than conception. Resumption is a cumbersome judicial procedure, specially where the land has already been built upon, and is rarely resorted to. Once a piece of land is leased out, public agencies more or less cease to impose controls. There is no case, however, for disposing off public land by way of freeholds. Perhaps, a shorter term of lease with the same rights devolving on the leases, might enable the State to exercise more rigorous building controls.

Land in the Planning Process

5.20 The determination of urban land use as part of a plan is largely the outcome of the town planner's vision and acceptance of reality. Theoretically, the people have a right to object, make suggestions and to be heard before a plan is finalized. But except where vested interests are being endangered, the people have nothing to do with the planning process. Secondly, few town planners have any experience about the physical working of plans and continue to formulate them at an academic level.

This is not meant to be a criticism of town planners, but a recognition of the fact that the planning agency has nothing to do with physical implementation. Thirdly, as has been noted earlier, the preparation of a plan normally takes so long that events have raced far ahead and have belied many of the assumptions of a plan even before it becomes final. Reasons for the delay are not only the use of outdated techniques and ill-documented land records, but also the tedious procedures provided in the Act. Lastly, despite the above shortcomings, development plans do not permit midcourse corrections. Under the law in Madhya Pradesh, land use specified in a development plan cannot be changed unless the plan itself is revised. This creates strange and unacceptable situations which agitate against the very concept of development. For example, a stage has been reached in Bhopal, when despite the vast areas of open land, virtually no land is available for housing. In Indore, the government of India is setting up a major institute, but the prescribed land use will not permit commercial and tertiary activities in its periphery. This rigidity in development plans is obviously counter productive, and restricts rather than promotes urban development.

The Urban Land Ceiling Act

5.21 Against the background of soaring land prices, speculation and an egalitarian political outlook, the Urban Land Ceiling Act of 1976 had the specific objective of ensuring equitable land distribution. In fact, the objects and reasons stated before the Parliament were as follows :

"A bill to provide for the imposition of a ceiling on vacant land in the urban agglomerations, for the acquisition of such land in excess of the limit, to regulate the construction of building on such land and for matters connected therewith with a view to preventing the concentration of urban land in the hands of a few persons and speculation and profiteering therein and with a view to bringing about an equitable distribution of land in urban agglomerations to subserve the common good".

But, even after 10 years the novel intentions of the Act have hardly been fulfilled. The first serious handicap was the lack of systematic documentation of urban land holdings. Secondly, the Act itself is obscure in detail and so complex in nature that legal loopholes have often defeated its purpose. It is reported that till November 1978, only about 278 ha

had been taken over in the entire country under the Act. And the context of Madhya Pradesh, the Act is applicable in 6 towns and the land taken over has been negligible.

5.22 Even the fraction of land acquired under the Act is riddled with problems such as squatters, awkward configuration and a lack of development. Rules regarding disposal have, in most instances, not been framed. The net effect is that so far the Act has completely failed to bring about equitable distribution or an impact on land prices.

Recommendations

5.23 1. In the first instance, (a streamlined system of urban land records must be created. A separate Directorate of Urban Land Records should be set up which can operate through District Collectors and subordinate offices). Urban land records must be centralized in these offices although management of land can continue with the different agencies and authorities. Such central record offices can be funded at least partly by development authorities.

2. The decision regarding public or private ownership of land should be taken in broad terms in the development plan itself. Basically this would mount to a projection of housing needs and an assessment of the land required for this. (Large scale acquisition without planning and an assessment of capacities of the development agency should be strictly avoided.)

3. (Disposal of land should be at pre-determined price) with cross subsidisation on the development cost. Auctioning of residential plots should be limited to highly developed areas. Commercial areas should be uniformly auctioned.

4. (Land should be provided only as leasehold but the period of lease should be shorter, permitting a revision in rent from time to time. The rent should be linked to real value rather than the initial premium.)

5. Allotment of unnecessarily large chunks of land to Govt. undertakings should be avoided in order to better utilize this scarce resource.

6. Development authorities must be given independent powers to acquire land. The Land Acquisition Act itself should either be amended in the urban context or a separate Act for urban areas should be brought in.

7. The Urban Land Ceiling Act needs simplification alongwith concentrated and time bound attention.

HOUSING

6.01 If there is any single sector of the urban scenario which affects people the most, it is housing. It determines their quality of life their stake in the city, their status, life style and security. Owning a house has always been a pre-occupation of the Indian mind, more so in the urban context. Indeed, policies of government and semi-government agencies with regard to urban development largely centre around housing, with

all the other factors of urban development being treated as offshoots. Yet the gap between the need and availability has only grown over the years, all over the country.

According to statistics compiled by the National Building Organization (NBO) from census data, occupied housing units as against the urban population of the country were as under :

	Urban population	Occupied housing units (millions)
1951	62.44	10.3
1961	71.94	14.1
1971	109.09	18.1
1981	159.7	27.2

It is clear that the gap between population and houses is widening at an alarming rate. But it hardly needs figures to realise that there is a crisis in the urban housing sector—it is sharply visible in any town whatever the size.

According to the 1981 NBO estimate, the shortfall in urban housing was about 5 million units, projected to grow to 6 million by 1986. The VII Plan document states that :

“.....the increase in population between 1985 and 1990 would generate roughly an additional requirement of housing units to the extent of, ... 3.8 million in urban areas.” By 1990, therefore, this many housing units would be required, merely to check on increase in backlog.

In M P, 1981 statistics indicated a shortfall of 0.6 million houses in urban areas, likely to increase to 150,000 houses by 1990, if present trends continue.

6.02 The reason for this large gap are three fold :

1. The fast pace of urbanization
2. Faulty policies in the housing sector
3. Changing patterns of life, such as dissolution of the joint family system and greater social equality.

There are three parameters which affect housing availability :

1. land management, including efficiency of development,
2. housing finance, and
3. incentives to private investment, including taxation, building control, etc.

Land

6.03 In no other sector of urban development, perhaps, has as much attention been paid and experimentation done as in that of developing land for housing. Starting from the question of public acquisition or encouragement to the private sector, going on to planning

norms of density and floor area ratios and including levels of development and taxation, any number of policy options have been adopted. The concern for lower income group and economically weaker sections has exercised the mind of planners right from the 1950s. Paradoxically, the dream of acquiring a plot of land has become increasingly distant for a vast majority of the urban population. The squatter problem is there for all to see, an eloquent judgement on our land management policies vis-a-vis housing.

6.04 In the context of the developing country, the Government and its agencies have perforce to play a major role so far as housing for lower income groups is concerned. Given the fact that there is a certain minimum cost for land development, direct or indirect subsidies will always have to be built into a housing programme. Thirdly, it is a hard fact that in order to ensure affordability, level of development will have to differ. The variables therefore, that affect policy decisions are :

1. Size of plot
2. Levels of development
3. Subsidies

6.05 Public agencies have not been able to combine these variables and reach an effective solution. The auctions of commercial plots an unrealistic planning. That reasons are numerous :

1. Subsidies can be inbuilt into schemes by optimum utilisation of land, which is very often ignored. This would include a correct mix of plot categories, generation of funds through auctions of commercial plots and realistic planning. That, this is not impossible is proved by several successful schemes for example, in new Bombay and in some of the older schemes in Kerala. Cross subsidies can, in brief, be effective only when land utilisation is imaginative and has the unblurred objective of providing affordable plots housing to the weaker sections. In the absence of this the result is that development for weaker sections really benefits people who are better off.
2. The second aspect is the choice between constructed houses and developed plots. Development agencies tend to become construction formations and by an internal logic, begin to favour profit oriented building activity. With the inevitable organisational overheads, contractor profit, lack of supervision and leakages, the end result is an unduly expensive house, poorly constructed and ill-served. In several instances, locations of such schemes are poorly conceived, resulting in a ridiculous situation of no takers, locked up finances, deterioration of property and general discredit. In Sehore, a town near Bhopal, an entire colony built by the Housing Board has found no takers for the past several years. One constraint, of course, is the availability of land which causes public agencies to construct wherever they find it rather than construct where houses are needed.

The Government also has distinct policy regarding transfer of land to such agencies.

6.06 Only lately has a firm view been taken that developed houses sites should normally be the limit of a public agency's involvement, except in the case of self-financed schemes. Thereafter, the question is of providing housing finance. This has been adopted in the ambitious World Bank/HUDCO assisted urban development project now being implemented in 6 towns in the State.

Housing Finance

6.07 Though the Planning Commission has repeatedly recognised the shortfall in urban housing, it has been constrained to allocate a pittance to this activity in public sector plan outlays. It has, rather monotonously, kept stating that it is basically the private sector which must meet the urban housing requirement. The VI Plan document said that :

"The public sector has only a marginal though promotional role to play in the provision of urban housing. It is clear that the need is greater for better and more housing in urban areas. As stated earlier, given the overall resource constraints and more pressing competing claims on public resources, the vast majority of additional housing in urban areas will have to be met from private resources".

This has been repeated almost verbatim in the VII Plan :

"As already stated Government role in the field of urban housing has perforce to be promotional. The major effort will have to come from the private sector".

Resource allocations have been in tune with this tendency. But the Government naturally recognizes the fact that private investment will do little for lower income groups and the EWS. The VI Plan stated that :

"The role of the public sector will have to be restricted to the improvement of slums, the direct provision of housing to some of the urban poor, (under the various social housing schemes such as housing for economically weaker and low income groups) and encouraging of agencies such as HUDCO which can promote the marshalling of resources in a constructive manner".

The VII Plan says:

"As already stated, Government's role in the field of urban housing has perforce to be promotional. The major effort will have to come from the private sector. Government's role will have to be restricted to the improvement of slums, direct provision of housing to the weaker sections of the society and encouragement and support of housing institutions that promote channeling of private resource into housing in a constructive way".

Not even the wordings of the document have changed, an indicator of what little thinking there has been regarding public sector involvement in urban housing.

Institutional Finance

6.08 Housing finance has simply not developed in this country despite the vast requirements and the availability of funds. Till recently, apart from the Government, there was virtually no other agency which made loans available to an individual at an affordable rate of interest. HUDCO has emerged, of course, as a major agency for housing finance in the country, but only for institutions, including cooperative societies.

6.09 When the Planning Commission speaks of institutional funds for housing, it means little other than HUDCO, since Life Insurance Corporation and General Insurance Corporation funds are already included in plan resources. From its inception in 1970, HUDCO had till arch, 1985, sanctioned loans of over Rs. 1662 crores, and released Rs. 992 crores, for urban housing, which is about 90% of its total outlay. Its loaning policies are determined by the GOI, which decides upon proportionate outlays on EWS, LIG and higher housing. Great emphasis is now being placed on financing of rural housing, but not as yet at the expense of the urban sector.

6.10 HUDCO is rapidly expanding its activities, and in the last 2 or 3 years has not only stepped up the quantum of loaning greatly, but also diversified its activities. Yet some agencies and State Governments have not been able to utilize its funds adequately. The rigidity of its norms with regard to ceiling costs of housing units, in particular, was an obstacle difficult to overcome. Secondly, HUDCO does not share any risks in loan recoveries, since it lends only against cast-iron guarantees of repayment. Thirdly, it lends only to institutions, and individuals cannot approach it directly. Agencies, in some States such as Kerala, borrow from HUDCO and make cash loans available to individuals owning plots of land, standing guarantee for repayment. But most States have been diffident in doing this on account of recovery uncertainties.

6.11 In the VII Plan, the GOI has projected an outlay of Rs. 800 crores by HUDCO, with its equity base raised from Rs. 75 crores to Rs. 135 crores. It is also envisaged that the flow to the EWS and LIG sector will increase substantially. But there is no mention of the fact that State level and local agencies would have to be considerably strengthened to absorb this quantum of investment.

6.12 In a limited way, at present, the Housing Development Finance Corporation (HDFC) has begun to provide loans to individuals, but it remains to be seen as to what extent this activity picks up, and its presence has yet to be felt in small and medium towns. It has concentrated its activities so far in metropolitan and large towns. In this State, for example, its presence is hardly felt.

6.13 Commercial Bank have almost totally stayed away from the sector of housing finance, chiefly on account of Reserve Bank restrictions. Although nationalized banks have funded institutional schemes, individuals cannot look to them for loans. Where such

loans are provided, the interest rate is prohibitive and the amount of loan limited. The role of Commercial Banks has been limited to debenture support to Housing Boards, etc. The importance of individual financing by Commercial and Cooperative banks cannot be over emphasized. Not only must adequate loans be provided, but there must also be differential rate of interest in accordance with similar concessions to weaker sections in other schemes. There can be no hesitation in such financing on account of the cast-iron security of a plot and the assets created thereon.

6.14 In the VII Plan, there is a proposal to set up a National Housing Bank (NHB) on the lines of the National Bank for Agriculture and Rural Development. A plan provision of Rs. 55 crores has been made as seed capital for the proposed Bank. It is envisaged that the NHB would seek funds from the capital market and explore the possibility of equity participation by financial institutions. It would function as a refinance agency for local institutions engaged in housing finance. The concept of such a Bank appears to be still in an ascent stage and there has been no mention of participation by State level agencies such as Housing Boards. But the need for such a Bank is obvious. Urgent action is required to set it up and to ensure that its reach is extended quickly to the States.

Again, while the NHB will function as a refinancing agency there has been little talk of encouraging private financing institutions at the regional level. Without this the NHB cannot succeed except in large or metropolitan cities. The reach of private financial institutions in a State like M.P. is virtually non-existent. The theme of private investment in housing has been consistently repeated but encouragement to private institutions has not been forthcoming.

Cooperative Housing

6.15 A third line of credit for housing purposes exists in the cooperative sector, almost solely operative at present in urban areas. Housing cooperatives borrow from within the cooperative credit structure, from the LIC, and marginally from the Government and HUDCO. They have done very well in the LIG and the lower MIG sector, but are now uniformly facing a problem of land. Where they have land, development is a major problem, since public agencies are expensive and Apex Societies have not developed the necessary expertise to assist member societies. Thus, cooperative housing is basically used as a device to obtain institutional loans, and to avail of priorities in land allotment.

Loan Recoveries

6.16 A corollary to the undeveloped housing finance sector in the country is the fact that there has been virtually no experimentation with the modalities of recovery. While several developed countries recognize the fact that an individuals repaying power rises with time. In India we have uniformly followed a system of equated instalments. If a loan

is recovered in increasing instalments it could have several advantages :

1. Lower instalments in the initial stages and higher ones when the individual is able to pay more on account of increased income, and
2. Catering for inflation, thereby making recoveries more meaningful in real terms, for the agency.

Urban Housing in Madhya Pradesh

6.17 Leaving aside rental housing constructed by the Government or its agencies for employees, urban housing activities in the State are carried out by :

1. The MP Housing Board,
2. Development Authorities, SADAs and TITs
3. Cooperative Societies

The 1981 NBO survey revealed that there was a housing shortage of about 60,000 in urban MP, likely to increase to 100,000 by 1986 and about 150,000 by 1990, given the present pace of construction. A World Bank assessment in 1982, prior to launching of a special project in the State, concurred with these figures. The MPHB constructs about 7,000 houses per year, while local authorities and cooperative societies together account for another 6,000 (These figures include developed plots). The private sector is not as active in this State as in some others on account of low capital formation, lack of developed land, and the poor reach of institutional finance. It is appalling to see that several Class II or smaller towns do not see any new housing activity at all. Smaller towns, in fact, generally present a picture of semi urban housing with mud walls and thatched roofs, closely bunched together, allowing no extension or expansion.

6.18 The State adopted a 'Housing Policy Resolution in 1982, which covered several aspects such as allotment and development of land, the role of various agencies, the emphasis on EWS and LIG housing, preferential treatment to cooperatives, etc. This indicates the State Government's concern about urban housing. In the past year, state level and local agencies have been geared towards EWS and LIG housing particular HUDCO borrowings in 1985-86 itself were higher than in the past 8 years put together.

6.19 However, it is estimated that two-third of all houses are built by individuals themselves. It is the private sector in the State which needs a greater boost than in other parts of the country, since present policies of relying on this sector are likely to continue.

Constraints to private housing

6.20 As our 5 year Plans have repeatedly said, the major contribution to urban housing will have to come from the private sector. It has been estimated that about Rs. 18,000 crores were invested in housing by the private sector in the VI Plan period. In

the VII Plan it was projected to be Rs. 29,000 crores. However, the Plan document recognizes the fact that a much larger investment is required if the backlog in housing is to be reduced. It mentions the need not only to mobilize more resources for this but also to make developed land available and to "make the necessary policy changes to remove obstacles in the way of housing activity e.g., modification in the rent control laws".

6.21 Beyond the above statement, however, the Plan says nothing about modifications in law or the existing tax structure. The chief constraints to private housing are plot availability and the availability of finance discussed above. But, even thereafter, there is acute difficulty, specially in small and medium towns, but also in larger cities of :

1. The jungle clearances, permissions, licences, etc. which in individual has to obtain from a host of agencies. These are all meant to control haphazard building activities, but in effect function to choke it off. The result is, firstly a fear in the minds of builders, and secondly the tendency to ignore laws and regulations. The various controlling agencies, are of course, constrained by rules which may not be realistic, but their attitudes and the lack of coordination is also a disturbing factor.
2. Lack of building agencies and the difficulty in material procurement. A person wanting to construct a house normally has such a complete ignorance of low cost building material and construction techniques and focus such a lack of honest construction agencies, that the invariably ends up spending much more than planned for a house which is much inferior to what he wanted. Even before he can build, he has problems of architectural advice. A majority of such people end up trying to design a house themselves and thereafter supervising its construction making a complete mess eventually. The point is that our large public agencies should be in a position to advise private builders at a nominal cost, perhaps providing designs and low cost, perhaps providing designs and low cost specifications.
3. The lack of incentives in our taxation structure have been discussed for years in various national and even international forums. No substantial change has yet been brought about. Taxation policies are discussed more fully in Section 7.
4. *Rent control*—This too has been a subject of much controversy, as a disincentive to house building activity. While there is no doubt that the interests of tenants must be protected, there is no reason why the conditions of a normal contract are not applicable to a landlord—tenant agreement. Today, stories have become common place about landlords fighting judicial battles with

tenants which spread over 2 or even 3 generations. This must surely be seen as an enormous waste of time, energy and money not only for the litigants, but for the courts. On the other hand, landlords have a positive disincentive in maintaining their premises, causing deterioration and a loss to society in general.

The problem of slums

6.22 The forces which lead to the creation of slums are too well known to need repetition. It is estimated that by our own definitions, about 30% of our urban population lives in slums. A 1982 World Bank appraisal of the urban sector in MP assessed the slum population about 40%. If we were to follow definitions of the developed world or that which is given by the United Nations, we would have to classify about 75% of our urban areas as slums.

6.23 It has long been recognised that while slums may be an environmental curse to an urban area, they are important and in fact essential components of economic life. They represent the tertiary, non-organised sector which serves the urban population directly or indirectly. For this reason, slums are a worldwide phenomenon, and only the degree of congestion and available amenities differ.

The clearance of slums has been tackled in various ways, but with an equal degree of failure everywhere. The Slum Clearance Act of Bombay has hardly been enforced except in improvements to some high rise tenements. The demolitions and forcible removal in Delhi in the mid 1970s created counter-productive results causing, at the same time, much misery and hardship. In Madras, an ambitious project was undertaken to house slum dwellers in tenements at a nominal rent. Now these tenements have become vertical slums while the slum population has risen. Increasingly, it has been realized that upgradation of slums is, perhaps, the only answer except in a few cases where resettlement on alternative site is a must. The upgradation consists of paving the approaches, drinking water, power, drains and low cost sanitation. This is now an accepted scheme in all States, and has had commendable results in numerous places. In MP, these schemes are executed by Municipal bodies with funds routed through the Slum Clearance Board.

In 1984, the State brought in an Act which granted tenurial rights to those of the urban landless who were squatting on Government or semi-Government land. Overnight, between 7 to 8 lakh families were benefited. Where tenure could not be given at the site of encroachment, the family was assured an equivalent plot elsewhere on the same terms and conditions. No premium was payable on the land, but a ceiling of 50 sq m was imposed. There was much criticism of the Act on the ground that it disregarded specified land use and town planning norms, condoned the offence of encroachment and would serve to encourage squatting on public land. On the other hand, it was lauded as a welfare

measure and as a recognition of reality. It also attempted to put into practice the theory that security of tenure would encourage permanent improvement and a desire to better living conditions. The long term impacts of this Act are yet to be seen.

6.24 Side by side with Act mentioned above, MP was the first State to realise the need to provide employment and income generation opportunities to the urban poor. A separate Department of Urban Welfare was created in 1984-85 for employment programmes in urban areas similar to the Integrated Rural Development Programme. Appropriately called "STEP-UP" (Special Training and Employment Programme for the Urban Poor), this department attempts to mobilize institutional funds for generating employment among the urban poor. Impressed by the concept, the Government of India has provided for it in the 1986-87 budget, and hopes to extend it to other States. Clearly, the State has taken major steps towards physical improvement of its slums, providing of tenure and of opportunities for economic upliftment. But a successful implementation of these programmes requires :

- (a) greater plan allocations,
- (b) expert planning inputs, and
- (c) active and committed participation by financial institutions.

Recommendations

- 6.25 1. Plan allocations for urban housing need to be stepped up drastically. This is essential for the weaker sections and low income groups.
2. The proposed National Housing Bank must be established urgently and should involve State level agencies such as Housing Boards. At the same time, private financing institutions must be actively encouraged so that the Bank's activities can reach far flung areas.
3. Plotted development must be preferred to house construction by the concerned agencies. Individual loans must thereafter be made adequately available both by private institutions and by commercial/cooperative Banks.
4. The results of research in low cost housing must be widely published through extension activity. Architectural and constructional advice must be made available by State level and local agencies for the private builder.
5. The Rent Control law needs drastic revision if it is to cease operating as a constraint not only to the building of private houses, but to their maintenance and up-keep.
6. The environmental upgradation of slums must be carried out at a faster pace and tenures should be provided, where possible.

TAXATION AND URBAN FINANCING

7.01 In a recent paper, V Nath states that

".....grossly inadequate inputs of finance and management needed for efficient functioning of urban government needed institutions and for expansion of housing and urban services to keep pace with the needs of the rapidly growing urban population, is at the heart of India's urban problem....."

He points out that the VI Plan outlay of Rs. 4450 crore on urban housing, water supply and sanitation, and urban development was barely 4.5% of the total public sector outlay. Private investment in housing was projected at Rs. 7700 crore out of Rs. 74700 crore. Altogether, private and public investment amounts to 7% of the total outlay. The VII Plan envisages in this sector, and outlay of Rs. 10782 crore, 6% of the total public outlay. This is inspite of the Planning Commission's obvious concern with regard to urban problems, voiced in no uncertain terms in the VII Plan document. The Plan recognises the fact that though urban areas account for only 23% of the total population, the magnitude of the problems are enormous.

7.02 Sometimes stated clearly and sometimes not, there is at the back of our Planner's mind the age-old argument that there are several areas of public investment which directly benefit urban areas, though not classified as urban development measures. The political hierarchy, with its rural base, feels that investments in cities amounts to pampering the rich at the cost of the rural poor. But it has to be clearly understood that :

- (a) a city does not consist only of the rich,
- (b) urbanisation is an essential component of economic growth and must therefore, receive planning inputs and financial support, and
- (c) that providing essential services does not amount to pampering the rich.

7.03 Several Plan documents, while showing concern for urban areas and making low allocations at the same time, have come to the convenient conclusion that municipal finances have to be strengthened and the taxation structure revamped. This really amounts to saying that additional resources have to be generated, and that no further allocations can be made from existing plan resources. There can be no argument against strengthening of municipal resources which are in an appalling mess. But the Government cannot wash its hands of its responsibility towards the urban masses, not only because they are tax payers and citizens, but because their condition is alarming. If there are other areas of public investment in urban areas apart from housing, water supply and urban development, then it might be well to not only quantify them but to

ensure that they fall into place in the development plan of a town. At present, such investment in fact generate greater problems for an urban area rather than benefit it in terms of infrastructure. The case of Korba and Durg-Bhilai has been discussed earlier in para 3.08 and 3.09. Here, public sector investment caused an urban explosion, but there was no concept of catering to the vastly increased urban needs. Neither did the Government of India or its undertakings feel the need to correct the situation in any way.

7.04 It has to be clearly recognised, therefore, that Government outlays in urban development simply have to be stepped up drastically. Further, cities which require urgent attention must get specific allocations. Otherwise, the tendency is to spread the available resources thinly in the face of regional pressures. For example, it is a sad commentary on our planning that in this State no new sewerage system has been laid in the last 3 decades except for the new areas of Bhopal and some portions of Raipur and Bilaspur. In 1982, Gwalior experienced such an acute water shortage that avacuation has been seriously contemplated.

Municipal Finance

7.05 For various historical, political and social reasons the municipal structure in the country has virtually collapsed. The VII Plan document notes as follows :

".....it can be stated that the finances of urban local bodies are in a sorry state and these bodies are unable to provide even the basic municipal services which are obligatory for them to provide, let alone undertake schemes"

The document further states that :

".....apart from the fact that many of the municipal bodies are moribund or have been superseded they are being administered badly, have undeveloped and/or eroded tax systems and suffer from lack of capital funds for development. The services they provide have deteriorated over the years and there seems no sign of reversal. Over crowded and under-served, an increasing proportion and area of urban conglomerations are being turned into slums."

7.06 Institutional problems have been discussed earlier in section 6. Financial problems of municipal bodies partly flow from these. For example, development functions have been taken over in any areas by independent authorities leaving municipal bodies the thankless job of maintenance. Land has also passed on to these development agencies depriving municipal bodies of a valuable resource. This, combined with the pressures on municipal bodies to create job opportunities, has made them grossly

overstaffed and inefficient. In Madhya Pradesh, for example some Municipal Corporations are spending as much as 95% on salaries and allowances alone, leaving nothing at all for development or investment. Some of the reasons for this sorry state of affairs can be summarised below :

1. *Abolition of octroi*—The State took the lead in abolishing the archaic system of levy of octroi. However compensatory taxation undertaken by the State Government, does not appear to satisfy the aspirations of the local authorities in this behalf.
2. *Chaos in taxation measures*, arising partly from poorly maintained land records and partly from legal lacunae or complications. Added to this is diffidence over the subject of taxation because the Corporator or Councillor is virtually face to face with the tax payer. There are numerous towns property tax has yet to be levied, and others where taxation measures have been subjected to litigation. It is a well known fact that assessment of property tax is subjected to so much discretion that leakages and corruption are rampant, and the net result is non-collection of available revenue. In this context the Rent Control Act, where applicable, is a further depressant since property tax is linked to rental values which may remain unchanged for decades.
3. *Untapped sources of revenue*—Municipal laws provide for various taxes, duties and levies, but a number of them are never imposed. Similarly, our legal framework does not permit taxation on Government property, whereas all the necessary services have to be provided to such property.
4. *Inefficient management and lack of technical personnel*—Municipal bodies are not run on professional lines and they do not have the human resources to do this. The education system also does not throw up the personnel required. The top echelons of municipal bodies consisting of public administrators and civil engineers, but financial experts are sorely lacking.

Devolution of State finances

7.07 State Government have constantly argued that the Centre which receives the lion's share of revenues from taxation in the country does not pass it on fairly to the States, which cannot thus fulfill the responsibilities assigned to them by the Constitution. The Finance Commission, while allocating these resources has naturally to adopt certain criteria, but these leave no one satisfied. In its own turn, however, the State refuses to formalise arrangements for devolution of funds to local bodies. There is no statutory provision for determination of the sharing of revenues between the State and the local body. Grants to them, therefore, are adhoc and based sometimes on needs, but more often determined by pressure groups. There is urgent need, therefore, for a statutory State Finance Commission to decide

upon the devolution of funds to municipal bodies. Such a Commission could also go into the question of tariffs on water supply and sewerage, rates of property tax, sharing of available funds between Municipal and development agencies, etc.

Redefinition of duties

7.08 For historical reasons local governments have continued with functions such as education, public health, organisation of social, cultural and other functions, etc. These functions can duly be taken over by Government agencies responsible for them and by voluntary groups. The duties of municipal body have to be redefined not only legally but in attitudes also. A clear distinction has to be made between essential services which must be carried out from available resources and non-essential functions which should only be permitted from surplus funds. It has to be ensured, of course, that no void is immediately created in areas which Municipal bodies are presently concerned with.

Development Agencies

7.09 While municipal finances, taxation and management have received the attention of various forums at various levels, little thought appears to have been given to the financial health of urban development agencies. Development plan implementation is not an activity for which any Government budgets, though its components may figure as separate schemes. Authorities, therefore, are set up but no seed capital or even margin money is provided to them. In some cases land is transferred to them as a resources but in most, for example, in Madhya Pradesh, they are either required to acquire it from their own funds or obtain it from the Government at market rates. They have no taxation powers.

7.10 As has been seen earlier, this lack of capital forces urban development agencies to concentrate on financially viable schemes and ignore the development of nonremunerative public utilities and infrastructure. The SADAs in MP are the only institution able to generate funds through municipal taxation and this has made some of them, for example, Korba and Bhilai Durg financially well off.

7.11 In the present policy framework it is obvious that land is the only resource which these agencies can use to bolster their financial position not only by way of quick, efficient and imaginative development, but by realising its full value. Betterment levies have been much talked about, but not enforced. Apart from the difficulty of assessments, there is the obstacle of vested interests which do not permit such a levy. Similarly, while the issue of mopping up unearned income has been highlighted in various forums, no concrete steps have been taken so far. The very process of planning to it a use which provides more economic returns. But this levy is allowed to with speculators. In the existing system, development authorities will have to be given the right to collect the levy or to receive a major share of it where it is collected by another agency.

7.12 As far as urban development authorities are concerned, therefore, a more efficient management of land, betterment levies and a share unearned income from land appear to be the only possible step towards better financial health. In the VII Plan document the Government of India has proposed the establishment of an "Urban Infrastructure Finance Corporation" with an equity base of Rs. 55 crore. This Corporation would be expected to raise institutional funds and channelise them into urban development, water supply and sanitation. In essence, therefore, this would be an extension of the existing scheme of the Integrated Development of small and medium Towns, which is centrally sponsored. Even in the beginning of the second year of the VII Plan, the establishment of such a Corporation is no where on the horizon.

Recommendations

- 7.13 1. Government investments in the urban sector, where not classified as such, should be quantified and must dovetail into development plans. Such investments must cater to expanding urban needs, often created by the investment itself.
2. The public sector must participate in local urban development and not restrict itself its own areas.
3. Plan allocations for urban development have to be stepped up in a major way if the urban situation is to be salvaged.
4. State Finance Commission must be established to determine the devolution of resources to local bodies. This Commission's decision must replace the present system of adhoc allocation and grants. The Commission should also be entrusted with the task of deciding tariffs on water and sewerage, rates of property tax and sharing of resources between municipal bodies and development agencies.
5. The assessment of property tax must be done by a centralised agency, if possible, though collection could remain with the municipal body.
6. A single tax e.g. property tax should replace the numerous taxes which can be imposed on the urban population. This will simplify the tax structure and allow energies to be concentrated.
7. Government properties should be liable to municipal taxation. In the alternative a compensatory grant should be given to municipal bodies as is done in Delhi.
8. Rent on land should be reassessed once in 5 years at least, and related to real value. Incremental values should go to the development authority rather than to the State Government.
9. Development authorities must be provided with adequate seed capital in order to implement non-remunerative portions of the development plan.

THE URBAN ENVIRONMENT

8.01 The first visions which the term 'environment' conjures up in the mind of a city dweller are of smoke, traffic, garbage and slums. At one time or other, all civilisations and countries have experienced problems of the urban environment. But while developed countries have solved them to a great extent, Indian cities are only facing deteriorating situations. It is difficult to believe today that Dickens was writing of the same London as the town we know today. For quite the opposite reason, Delhi today is hardly the town it was in late Mughal or even recent British times.

Environmental problems of our cities will be considered here in three facets :

1. The Physical
2. the visual, and
3. the socio-cultural environment.

The Physical environment

8.02 One noteworthy feature about most growing towns in India is the sharp contrast between the older part and the newer development. Urban development, almost by definition, involves geographical expansion, but on account of several factors, such as institutional attitudes, lack of planning or inadequate implementation and vested interest, the new development in the Indian context continues to increase pressures on the old town without investment on its development. The old town invariably has the railway station, the main bus stand and the wholesale business of the town. With increase in population, the pressures on all these increased proportionately, but no development plan envisaged their expansion, improvement or upgradation. Development agencies, for various reasons, look only towards new areas, totally neglecting the old business area which continues to serve the town. The result is unbearable living conditions in these areas and sharp contrast in the environment between the two portions of a town.

8.03 The urban explosion creates environmental problems with which no Government finds it possible to keep pace. Even with the best of intentions and sincerity, financially weak and technically incompetent public agencies cannot provide the services that are increasingly demanded. Institutional problems and financial constraints have been separately considered in Sections 5 and 7. The end result is that :

1. municipal services are not extended to the expanding urban sprawl,
2. the existing services begin to crumble and collapse because they are overburdened, and
3. emerging townships do not sometimes develop the services at all.

In MP, e.g., only 206 towns have an organised water supply of the 1981 total of 327. Only 10 towns in the State are partially seweraged, and only 3 sewerage projects have been undertaken since 1956

(Bhopal, Raipur and Bilaspur). Most of the old sewer systems, some dating back to the 1920s, are non-functional because they have not been upgraded or expanded, and serve only the older parts of the town. The 3 new systems also cover a part of the towns only. By and large, this is the pattern in the entire country.

8.04 To add to this abysmal gap between requirement and provision, local bodies are finding it increasingly difficult to cope with maintenance, be it of water supply, solid waste removal or roads, despite the fact that this has become their only major function. The consequence is the utter filth, stink and general degradation of the urban environment. Alarming cases are occurring of water supply mains becoming infected by sewer lines, of foreign bodies in tap water, of accidents caused by potholes and of gastro-enteric epidemics. Population congestion not only causes the problems but worsens them also. Whereas high density areas overload the civic services unbearably sprawling settlements overstretch them. Changing living and consumption patterns lead to greater generation of waste—liquid, solid and gaseous—in a system decreasingly able to deal with them. Even where population densities develop according to plans and projections, a complete package of adequate services is such an expensive proposition that no one is willing to provide it. As if this were not enough, air pollution has become a major hazard of urban life. In larger cities, it is vehicular exhaust combined with industrial emission. In smaller ones, it is caused by organised fuels and the old industrial unit. Surveys are repeatedly reporting the high incidence of air pollution in urban areas. What is even more alarming is that there is a marked presence of toxic gases and suspended particulate matter. Efforts to control such pollution have been half-heartedly begun, but have floundered because of inadequate legislation or prohibitive costs.

8.05 A third disturbing feature is noise pollution, from vehicles, industrial units and unnecessary amplification of sound. There are laws to prevent all these, but they are hardly enforced religious, social or cultural occasions are used as excuses to blast the environment with jarring music or speeches or chants. While law enforcement agencies are different in controlling this, the tolerant Indian mind complains privately but does not object.

8.06 Another characteristic of our urban environment is acute traffic congestion and problems of public transport. It is, of course, directly related to high density and concentration of work areas. But, it can also be related to the poor condition of roads and in most cases an absence of planning. A lot of development plans envisage the construction of ring roads, main roads and approaches. For several reasons these are the last priorities for a development agency. In many instances, heavy highway traffic continues to pass through the heart of a town. Even where master plan roads are constructed, the specified width is simply not available to traffic on account of obstructions caused by encroachments, electric poles or man-holes. Traffic patterns are rarely taken into account and there is a situation of laissez-faire with regard to

puncturing the main roads, establishing islands, locating bus stands and parking. In small and medium towns several modes of transport are used from bullock-carts to high speed automobiles. Traffic cannot flow evenly and it is a surprising fact that in a number of small towns the speed of traffic is much lower than in larger ones.

Traffic and transportation also suffer from institutional confusion. Responsibilities for road maintenance, traffic regulation and public transport are divided between several agencies and the outcome is a lack of overall responsibility. This not only causes anxiety about movement in the normal urban mind, but also leads to concentration of population in work areas and of the problems that this generates in turn.

8.07 Although development plans provide for adequate open and green spaces, green belts and plantation, the fact remains that our cities also experience a change in the micro-climate. There are variations of temperature within large towns, and the weather report in the morning sometimes makes us wonder whether the gauges are right. But more significantly, large cities are becoming 'heat islands' with markedly higher temperatures than the neighbouring countryside. In India, this subject has not been studied enough but has obviously been physically sensed. The emphasis, in recent years, on intensive plantation is bound to solve the problem, to a certain extent. But equally important is the need for special attention to micro-climate control through environmental planning.

8.08 A very significant point to be noted is that deterioration of our urban environment is usually associated with metropolitan and larger towns. A visit to some towns in MP will prove that the problem can be as bad in smaller cities. The air pollution problem in Katni caused by lime kilns and that in Korba caused by the thermal power stations, is probably the worst that can be seen in the country. Effluent discharge from industrial units has made the rivers and nallas of Indore a great health hazard. The industrial area in Ratlam is so saturated with air pollution that no industry with air emissions is being permitted there.

8.09 Slums

The environmental problems in slum areas hardly need a detailed description. In any case, they are merely urban problems in a more concentrated form. The acute congestion, lack of sanitation, inadequate and unhygienic water supply, add up together to form a health hazard to the urban community in general. The worst affected, of course, are slum dwellers themselves.

The visual environment

8.10 Few of our cities have anaesthetic appeal any longer. While the charm and harmony of older towns has been completely destroyed by modern developments, there has been no effort or consciousness in bringing about visual conformity or architectural symmetry. Even exclusive developments, for example

in South Delhi, are a curious mixture of borrowed styles, clashing forms and chaotic facades. The only concession granted to visual pleasure is the planting of trees and the laying of gardens. But here too the emphasis is on exotica rather than on environmental value.

Partly this visual chaos is the result of rapidly changing values and of a class which has no roots in the city it lives in. But partly our architects and planners must share the blame for a lack of sensitivity and utter disregard of aesthetics. This is evident from the fact that public buildings are as offensive as private construction, perhaps more so.

8.11 Apart from planning, there are two other factors which disturb the visual environment :

1. Lack of maintenance of structures, whether for want of funds or of attitudes or on account of disincentives created by law, such as the Rent Control Act. Crumbling walls, decaying plaster, unfinished structures, un-built approaches are common urban sights.
2. The free-for-all in high tension wires, household connections street light, telephone wires all contribute to urban problems.

Socio-cultural environment

8.12 It is not only on account of congestion, anonymity, unemployment and opportunity that cities generate such a high degree of crime. It is also on account of changing patterns of living and a gradual disappearance of community pressures. Where population has grown rapidly, people from differing social, cultural, religious and economic backgrounds have come to live together. It is common, in larger cities, for neighbours to know nothing about each other with regard to profession, background, inclination or habits. Pre-occupied with their own problems in the struggle to survive, they have no time for neighbourly niceties. If a crime is committed next door, therefore, there is no concern or empathy. Least of all is there an inclination to prevent it. To take an example, the riots in Delhi in November 1984, caused the most havoc in the trans-Yamuna re-settlement areas, where the density is high, the anonymity higher and community interference completely missing. The answer is not, of course, to ensure that communities live together in religious or social groups. Rather the community feeling has to be promoted through deliberate opportunities to interact, to know each other and to be drawn together in joint activities.

8.13 Apart from crime, there are of course the social evils of prostitution, gambling and now of drug thriving in congested, overpopulated and unregulated urban pockets. These serve to absorb the surplus income generated from urban economic activity, but ultimately become fatal attractions for people who cannot afford for them. In a sense, such activities do provide incomes in livelihoods to a number of people.

8.14 There is one basic problem in urban areas which is little realised and rarely tackled. Just as land

records are poorly maintained in a city, there is no agency which maintains a record of the people who lives there. In rural areas, the system of registering births and deaths is still followed to an extent and new faces are noted and reported. In the urban context, such a system is missing. At times of disaster, for instance, identification of victims poses problems. It can be readily appreciated, therefore, that law enforcing agencies find it difficult to deal with petty crime or grey of areas of semilegal activity.

Recommendations

- 8.15 1. The problem of adequate water supply, sewerage and drainage has to be urgently tackled out of greater plan allocations. In turn, the urban population must be made to spare the costs of these services.
2. Solid waste removal and recycling must be modernised.
3. Strict laws to check noise pollution must be brought in and enforced rigorously. Community awareness of this hazard, which can lead to nervous problems, must be built up.
4. Vehicular emissions must not only be checked locally but a control on them made obligatory at the production stage.
5. Air pollution laws, have to be strictly enforced, even if it means harsh decisions such as closure of factories and consequent loss of employment. Similarly, for water pollution laws. The Govt. must also think of providing facilities, incentives and even subsidies for shifting polluting industrial units outside urban areas.
6. Traffic and transportation has to be brought under a single authority, preferably the Transport Department of the State Govt. functioning through District Magistrate or regional offices.
7. Architectural controls have, in the first place, to be evolved and in the 2nd, enforced. Enforcement can only be done by the local development authority and not by the Town Planning Department.
8. Accurate data about the resident population of an urban area has to be maintained as a first step towards checking crime and anti-social activity. Community interaction has to be promoted through voluntary groups and physical facilities.

9. SUMMARY OF RECOMMENDATIONS

States like Madhya Pradesh which are experiencing a faster pace of urbanisation than the rest of the country, and in a more diversified form, require special attention with regard to urban planning and resource allocation.

2. Class II and III towns show disturbing features such as acute congestion. Development schemes, specially of housing, are urgently required in such

towns and institutional arrangements for this must be urgently made.

3. Agricultural development creates pressures on growth centres which services the hinterland but development programmes pay no attention to this. It is essential that a portion of the funds on agricultural development be allocated for developing the infrastructure in such towns. This will ultimately help agricultural development also.

4. Public sector industrial investment must be accompanied by detailed town planning measures to absorb the pressures on existing townships which expand rapidly. Institutional arrangements must be made well in advance and should be in corporate participants by the central and the State Government, in public sector undertakings involved and local agencies. The public sector must continuously participate financially in urban development, whether by direct grants or by submitting to local taxation.

5. Growth centres for private investments in industry be located so as not to create pressures on neighbouring cities. Such growth centres must develop adequate urban services as a part of the development process.

6. Engagements must be given to the growth of small scale and cottage industries in Class III or even Class IV towns so as to prevent inter urban migration.

7. The development communications must take into account its impact on the special distribution of urban centres. Better communications inevitably make migration unnecessary for a number of people. Madhya Pradesh needs a much better investments for the development of communications by the Government of India.

8. The Government of India should carry out an independent assessment of the impact of Rural Development policies on urbanward migration. This will enable it to judge the results of the vast outline be made on Rural Development.

9. Madhya Pradesh has special problems in areas such as Singrauli, Pithampur, Bilapur (Guna) on account of enormous public sector investments in a short space of time. These areas required concentrated, coordinated and urgent planning if a mess such as Korba or Bhilai is to be avoided.

10. The Govt. of India could prepare a model for administrative arrangements at the State and the Directorate level to prevent segmentation fragmentation and dilution of responsibility regarding urban development and its proper monitoring.

11. Municipal bodies must be given only the task of maintenance of services. Legislative changes should be made, if required, towards this end.

12. The functions of urban planning and implementation of a plan must continue to be separated. However, Development Authorities should be established before a plan is formulated so that they can actively participate in the planning process.

13. The planning process must be carried out in detail right down to the zoning plans, architectural controls etc. After this, the operation both in legal terms and in physical control should vest with the Development Authorities. The Town Planning Department should be relieved of the task of building permissions and of policing. But this can be done only if the development plan itself is detailed and clear.

14. Providing of services should continue with Govt. departments as at present with maintenance functions after completion being assigned to Municipal bodies.

15. Traffic and transportation in urban areas should squarely be the responsibility of the Transport department of the State Govt. functioning through its regional officers or District Magistrates.

16. Slum improvement and clearance should be the responsibility of the Development Authority and the Slum Improvement Board should only be a financing institution.

17. There should be a strict control on the setting up of financially and technically weak authorities at the local level.

18. The Govt. of India must set up institutions in the State for degree courses in Town Planning, Urban Management, Urban Economics, Municipal Engineering and Maintenance, Municipal finance etc. This is extremely necessary in view of the acute shortage of qualified and trained personnel in the field of urban development.

19. The Town Planning department of the State has to be considerably strengthened, expanded and upgraded in order to meet the urgent requirements of urban planning. The Planning process has to be speeded up dramatically in order to make it realistic. At the same time, it has to be locally completed in terms of zoning or sub-divisional plans, etc. The Department must be relieved of its work with regard to building permissions and implementation of the Town Planning Act in the post development plan phase.

20. Development plans must take into account the premises on older parts of towns and development authorities must be compelled to invest a certain minimum amount in such areas.

20(a). Development Plans must have a detailed section on financial implications, phrasing and available resources.

21. In the first instance, streamlined system of urban land records must be created. A separate Directorate of Urban Land Records should be set up which can operate through District Collector and subordinate offices. Urban land records must be centralised in these offices although management of land can continue with the different agencies and authorities. Such central record offices can be funded at least partly by development authorities.

22. Disposal of land should be at pre-determined Price with cross subsidisation on the development costs. Auctioning of residential plots should be limited to highly developed areas. Commercial areas should be uniformly auctioned.
23. Land should be provided only as lease hold but the period of lease should be shorter, permitting a revision in rent from time to time. The rent should be linked to real value rather than the initial premium.
24. Allotment of unnecessary large chunks of land to Govt. undertakings should be avoided in order to better utilise this service resource.
25. Development authorities must be given independent powers to acquire land. The Land Acquisition Act itself should either be amended in the urban context or a separate Act for urban areas should be brought in.
26. The Urban Land Ceiling Act needs simplification alongwith concentrated and time bound attention.
27. Plan allocations for urban housing need to be stepped up drastically. This is essential for the weaker sections and low income groups.
28. The proposed National Housing Bank must be established urgently and should involve State level agencies such as Housing Boards. At the same time, private financing institutions must be actively encouraged so that the Bank's activities can reach far flung areas.
29. Plotted development must be preferred to house construction by the concerned agencies. Individual loans must thereafter be made adequately available both by private institutions and by commercial/co-operative Banks.
30. The results of research in low cost housing must be widely publicised through extension activity. Architectural and constructional advice must be made available by State level and local agencies for the private builder.
31. The Rent Control law needs drastic revision if it to cease operating as a constraint not only to the building of private houses, but to their maintenance and upkeep.
32. The environmental upgradation of slums must be carried out at a faster pace and tenures should be provided where possible.
33. Govt. investments in the urban sector, where not classified as such, should be quantified and must dovetail into development plans. Such investment must cater to expending urban needs, often created by the investment itself.
34. The public sector must participate in local urban development, and not restrict itself its own areas.
35. Plan allocations for urban development have to be stepped up in a major way if the urban situation is to be salvaged.
36. State Finance Commission must be established to determine the devolution of resources to local bodies. This Commission's decision must replace the present system of adhoc allocation and grants. The Commission should also be entrusted with the task of deciding tariffs on water and sewerage, rates of property tax and sharing of resources between municipal bodies and development agencies.
37. The assessment of property tax must be done by a centralised agency, if possible, though collection could remain with the municipal body.
38. A Single tax e.g. property tax should replace the numerous taxes which can be imposed on the urban population. This will simplify the tax structure and allow energies to be concentrated.
39. Government properties should be liable to municipal taxation. In the alternative a compensatory grant should be given to municipal bodies as in done in Delhi.
40. Rent on land should be reassessed once in 50 years at least, and related to real value. Incremental values should go to the development authority rather than to the State Government.
41. Development authorities must be provided with adequate seed capital in order to implement non-re-munerative portions of the development plan.
42. The problem of adequate water supply, sewerage and drainage has to be urgently tackled out of greater plan allocations. In turn, the urban population must be made to spare the costs of these services.
43. Solid waste removal and recycling must be modernised.
44. Strict laws to check noise pollution must be brought in and enforced rigorously. Community awareness of the hazard, which can lead to nervous problems, must be built up.
45. Vehicular emissions must not only be checked locally but a control on them made obligatory at the production stage.
46. Air pollution laws have to be strictly enforced, even if it means harsh decisions such as closure of factories and consequent loss of employment. Similarly, for water pollution laws. The Govt. must also think of providing facilities, incentives and even subsidies for shifting polluting industrial units outside urban areas.
47. Traffic and transportation has to be brought under a single authority, preferably the Transport department of the State Govt., functioning through District Magistrates or regional offices.
48. Architectural control have, in the first place, to be evolved and in the 2nd, enforced. Enforcement can only be done by the local development authority and not by the Town Planning department
49. Accurate data about the resident population of an urban area has to be maintained as a first step towards checking crime and antisocial activity. Community interaction has to be promoted through voluntary groups and physical facilities.

A NOTE RECORDED BY SHRI K C S ACHARYA,
CHIEF SECRETARY, MADHYA PRADESH
AFTER A VISIT TO AMARKANTAK ON 10TH
JUNE, 1986

Respective Planning

2. The problems of Amarkantak have to be considered and tackled in two parts, viz., (i) the limited revenue and SADA area, containing villages, Bhata lands and abadi land but excluding the mining area; and (ii) the larger plateau of Amarkantak, including all the high peaks, the mining area and the forest area. The latter category is to be protected and managed from environmental and ecological considerations. By consensus, the boundaries of this larger area were fixed as follows :

(i) *North*

Ponki village on Amarkantak-Rajendragram road and Nala joining Narmad River (in the west). In the eastern side the motorable road via Biliuri, Karangara, Kharidebra, etc.

(ii) *East*

Kharidebra village to Jhurahi tola and along-with Malinia Nala upto Keonchi-Gaurela road.

(iii) *South*

Piperkoti-Keonchi, Amadoh, (State highway) Ranjiki Chauradadar (motorable road).

(i) *West*

Chauradadar alongwith Turar Nala upto village Babin to Karanjia on (Amarkantak-Dindori road) Dongu tola, Kiranji villages; upto river Narmada.

3. For this plateau, a special plan for its consideration and development will be prepared by a team of experts from different departments to be constituted by the Department of Housing & Environment. To begin with, a detailed topo-graphical map be prepared showing the above boundaries together with an explanatory note on the status of the forest and the species standing. The present plantation and other conservation measures in hand with the Forest Department and the SADA should be evaluated and commended upon. Areas that have been mined and where clear felling has been done should be accurately shown in the map, together with the present plantation activity by different agencies. The new plan that will be prepared by the inter-departmental team should start with pointing out the defects in the existing arrangements and, after presenting a total picture, prescribe the programme as well as the responsibilities of the various agencies and the coordination mechanism.

4. It is now suggested that because the area is spread over the three districts falling in three different divi-

sions, the management of the forests poses numerous administrative difficulties. It was decided that the entire forest over the plateau, after proper demarcation with reference to its natural features as described in paragraphs 2 and 3 foregoing be constituted as an independent circle under the sole charge of a Conservator of Forests. Thus larger area may be constituted by creating. Separate forest division at Pendra Road and Karanjia which will cover all the neighbouring forests within a radius of 25 to 30 kms from Amarkantak as the crow flies. This area will also include the area falling in Achanakmar game sanctuary and the newly constituted Amarkantak division.

Plantation Programme

5. Amarkantak plateau needs plantation on a large scale because extensive areas have been cleared in the mining operations and for agricultural purposes. Even otherwise, density in the existing forests is coming down sharply. Not only to protect the precarious ecology of this plateau but also to recharge the ground water and augment the flow in the Narmada, large scale plantation of Sal trees—which is the native of this place—is absolutely necessary. Another characteristic feature of this plateau is beautiful rolling meadows. In the matter of plantation, it should be remembered that the basic characteristic of this plateau should always be kept in mind and the plantations, both in terms of physical coverage as well as species of plantations, both in terms of physical coverage as well as species of plantation should be harmonious with the natural conditions prevailing here. The following agencies must immediately chalk out of this programme :

1. Forest Department.
2. SADA.
3. Agriculture Department.
4. Rural Development Deptt. (under NREP & RLEGP).
5. Balco.
6. Hindalco.

The Collector, Shahdol, will coordinate and Principal Secretary (H&E) will oversee this programme.

6. On some patches eucalyptus and pine have been planted on a very large scale. These plants are just coming up. They should be uprooted and the following species should be prescribed for plantation :

1. Sal.
2. Mahua.
3. Peepal.
4. Bargad.

5. Jamun.
6. Jack fruit (Katahal).
7. Pakur.
8. Tendu.
9. Harra.
10. Behera.
11. Amla.

Planting the mined area with trees is the responsibility of the leaseholders i.e., the BALCO & HINDALCO. They should be required to do this, failing which they may deposit the prescribed amount with the DFO who will do the plantation as deposit work. Forest Deptt. should permit the local DFO to accept the deposit for plantation purposes.

Principal Secretary (H&E) should keep particular watch on this re-plantation programme.

Mining Activity

7. A number of mining leases for extraction of bauxite have been given in this area to BALCO and HINDALCO. Unfortunately most of the mining that has been done by these organisations has been in utter disregard of sound ecological principles. Deforestation, heavy digging of pits and disorganised dumping of over-burden is the common sight. It is essential that a case to case review of the leases is done on the basis of spot verification, breach of lease conditions in each case is determined. Thereafter, action should be taken according to the terms of the lease for the breaches committed. Specific action should also be suggested for afforestation, treatment of excavated areas and disposal of over-burden. The Collector should do this exercise under the overall supervision of the Principal Secretary (H&E).

8. It should also be examined by the Collector if the lease areas are in excess of the requirements of these Companies and if so, specific recommendations should be sent to the Mineral Resources Department.

Transfer of Forest Areas

9. Coming to the problems of forest, revenue and SADA areas, the following decisions were taken :

1. The forests in Amarkantak are held by three authorities i.e. Forest Department, SADA and the Revenue Department. This creates the problem of divided responsibility and one department puts the blame on the other. It was decided and every one agreed that the entire area recorded as 'forest' be transferred to the Forest Department for its proper maintenance and preservation. The transfer modalities will be finalised at the district level under the over all guidance of the Collector.

As regards the conservation and development of this forest area, the plan shall be prepared by the inter-departmental team referred to in paragraph 3 above and implemented by the forest Department.

10. The existing boundaries of the SADA are a trifle irrational in as much as a couple of kms down stream of the river, some portions lie in Mandla district, which have been excluded from the present boundaries. The boundaries should be rationalised after proper survey.

Encroachments

11. This menace is existing on all kinds of lands forest as well as revenue. It is regrettable that the Forest officers have taken no action to evict the encroachers from the reserved forest where certain outsiders have constructed long dormitory type houses, and adjacent lands brought under agriculture.

12. SADA lands come next. There are heavy encroachments on them also. Even though SADA have got legal powers to evict the encroachers, there are certain practical difficulties before them in tackling this problem. One way could be that all SADA lands where encroachments have taken place, may be re-patented to the Revenue Department which will then deal with them. Secondly, there are numerous cases in which people have constructed their huts on both sides of Narmada where pattas have been granted to them and some cultivation is also done with grave threat to the water now in Narmada. All these cases will have to be tackled urgently because no habitation and cultivation alongside the river is to be permitted any longer. Suitable alternative sites should be selected for settling such people. Shri Bapat, Additional Director, Town & Country Planning, should be associated with this search and location of sites for habitation. The Collector will ensure that these plans are finalised in a couple of months and actual shifting may be effected thereafter.

13. The SDO, Rajendragram, suggested that in the Act governing SADAs legal provisions may be made conferring concurrent jurisdiction on the revenue authorities or dealing with encroachment cases. Principal Secretary (H&E) will examine this suggestion and, if found feasible, this pattern should be adopted in respect of all the SADA areas.

14. There are reports that a certain number of Baigas have also settled down in the forest area. Since they are a primitive tribe and original residents of this tract, complete information in respect of their settlements be collected and submitted to the Tribal/Forest Departments for orders. These Departments will process this as a coordination case.

15. The most disturbing aspect of this phenomenon is conversion of natural drainage areas into agricultural land. This is being done on a large scale causing numerous environmental problems, ultimately resulting in diminution of flow in the Narmada river. Heavy erosion is also taking place. This should be strictly curbed and the original character of the land restored. The Collector will order intensive field to field 'girdavari' from this angle and prepare record of such areas which have been converted into agricultural fields, register cases against the offenders and take strict action.

During discussions, it was found that this problem of encroachment on revenue, forest and SADA lands for cultivation purposes is of such large dimension that it should receive special attention of the authorities under the over all guidance of the Collector.

16. The most sensitive zone of the Narmada eco-system on the plateau can be delineated from the origin of the Narmada Kund upto Kapil Dhara. In this stretch of the river, there are about four other small rivers—Gayatri, Savitri, Kapila, Vaitarni— which join Narmada. Presently, this area is being encroached upon by hutments, construction of roads and building and other constructions on one side and by farming and gardening activities on the other. In certain pockets, illicit distillation is also taking place. Close to Kapil Dhara, mining activities are also taking place. Surprisingly, on the river bank itself certain experimental plantations of pine, etc., is being done which do not match with the natural flora of the plateau. The objective is to conserve the natural eco-system of the area and development should be in harmony with this system. To ensure this, a detailed development conservation plan should be prepared by the Housing and Environment Department and got implemented by the SADA and other respective departments. The necessary studies and projectisation in this respect should be carried out by the EPCO, MPVPS and other specialised organisations, under the over all guidance of project Coordinator to be appointed by the Housing & Environment Department.

Reservoirs

17. There are proposals to construct four tanks for storing water. Keeping in view the fragile ecology of this place, these projects which will result in large scale digging should be taken up with great caution and care. Chief Engineer (Irrigation) and SE (Irrigation), who have prepared these projects, should visit Bhopal alongwith all records and discuss with the E-in-C (Irrigation) as well as with Shri Matin Ahmad, Special Secretary to Hon'ble Chief Minister.

18. The main KUND from where the Holy river emanates, and where ancient temples exist, should not be used for bathing purposes. It should be used only for worship and taking the 'CHARNAMRIT'. The pilgrims should bathe in the tank already constructed immediately below the main Kund. Only on the holy occasion of Maha Shivratri, the pilgrims will be allowed to take a dip in the main Kund. The tank will, thereafter, require immediate cleaning. This discipline should be enforced by SADA under the over-all guidance of the Collector.

Agriculture Farm

19. Generally, speaking the farm should be used for raising orchard crops so that the land is planted with fruit bearing trees. Agricultural activities involving ploughing should be totally discouraged. Presently, the farm is raising seed crop of cauliflower and radish. There is ample scope for these crops in the plains and

in Rajendragram along the Jonhna river. The plateau should be spared of agricultural crops.

Drinking Water

20. There are already two tube-wells, one of which has developed some defect. The S&E (FIELD) informed that the firm which drilled the well has been summoned and they will rectify the defect. A third tube-well is under contemplation and will be drilled during this season. Budget provision is available.

Communications

21. Two bridges are proposed over Narmada, one at Kims-205 (at the confluence of Vaitarni) and the other on the Kapildhara. The former has been designed only 7.5 meters wide, whereas this should have been just double the width. It should be widened now.

The other one is proposed at Kapildhara. This should not be of concrete, but of wood designed as a root bridge.

22. As recorded elsewhere, looking to the fragile ecology of the plateau, two things must be total taboo—intensive agriculture involving upturning of soil and digging of earth. Construction of roads must be minimal and done with lot of care. It is not necessary here to construct motorable roads; this is a place of pilgrimage and a large number of devotees come trekking. Those who come through public transport or in their private vehicles must, having arrived on the plateau, visit the various sites walking. During our visit to Son-muda, it was noticed that the road is being constructed in the manner of plains causing much damage to the land surface. The topography is undulating and the road construction especially the drains on both the sides, is not only a direct contributory factor to soil erosion, but wayside. Sal trees become a casualty in the bargain. It is a matter of great regret that neither the PWD officers nor the Forest Officers at the senior level have cared to apply their mind to this problem and have left the planning and construction of roads to the junior officials who do not possess the right kind of sensitivity on this issue. I am convinced this matter should not be left entirely to the care of the PWD, and should receive very close attention in the Housing and Environment Department. The general approach should be that no motorable roads should be constructed; only bridal paths should be laid, avoiding cutting of trees and digging of drains. The place is basically for trekking and not for racing automobiles.

23. The general question of improvement of roads converging on Amarkantak from Shahdol, Dindori, Jabalpur, Bilaspur, Pendra, etc., was discussed and it was decided that a separate note be sent to PWD at the Governmental level. Likewise, the number of buses serving this Holy place should be increased suitably. This matter should also be taken up with the Transport Department and the Chairman, MPSRTC.

Regional Plan

24. The area for which a special plan should be prepared was also considered. In this connection, it was

felt that a regional plan should be prepared for the area with the following demarcations :

Karanjia in the West, pendra Road in the East
Keonchi in the South and Rajendragram in the North.

The Directorate of Town & Country Planning will urgently prepare the regional plan in order to maintain the basic character of the area.

Camping facilities for the pilgrims

25. Shri Amar Singh, Chairman, District Panchayat, suggested that simple structures be provided with pucca plinth for providing temporary shelter for the pilgrims. This is a good suggestion and SADA should undertake construction of such shelters at suitable places *without cutting even a single tree* for at least 500 people to begin with.

26. The allotment of land for house construction, their layout and the architectural designs should be strictly controlled in this area. The Department of Housing and Environment will ensure this by enforcing appropriate rules. As a matter of fact, the Depart-

ment should examine the feasibility of framing special building rules for places like Amarkantak and Pachmarhi.

Medical Facilities

27. The additional PHC serves a large area and Amarkantak being a place of pilgrimage, a large number of tourists devotees and other people transit through the place. It is felt that the provision of medicines and equipment with the PHC is not adequate and needs to be enhanced. Additional allocation of Rs. 20,000.00 for medicines and construction of a ward containing 10 beds as an addition to the present PHC is essential. The Department of Public Health may look into this and take necessary action.

28. Amarkantak has a full-fledged police station covering a number of villages and the number of medico-legal cases that come to the PHC is not insignificant. In many cases, it is necessary to conduct postmortem and great inconvenience is being felt in this regard as there is no mortuary in the PHC. Construction of a mortuary is, therefore, essential and may be taken up at an early date. The Public Health Deptt. may take necessary action.

A NOTE RECORDED BY SHRI K C S
ACHARYA, CHIEF SECRETARY M P AFTER A
VISIT TO MANDIDEEP ON 24TH OCT. 1986

Shri K C S Acharya, Chief Secretary, Madhya Pradesh visited Mandideep, an industrial growth centres 26 Kms. from Bhopal and summarised below are the four notes.

2. Starting with the transfer of 560 acres of Government land to the Industries Department in the year 1973, Mandideep has developed into a big Industrial Complex over the past 15 years. Today it is spread over 1254 acres, including a chunk of 262 acres, acquired in 1984 for housing purposes. The latest projections show that the total work force of more than 21,000 will be employed at the peak level. In other words, this complex is going to be a township of more than one lakh population. Its implications in terms of housing, social services and other amenities can better be imagined than described.

3. The most unfortunate aspect of the planning of this industrial township is that about 432 acres of most fertile agricultural land in the 'Tal' area, was acquired in the years 1980 and 1983, thereby displacing agriculture on a large scale. The position today is that practically the whole of Mandideep is an industrial township and there is no rural or agricultural area left. All the cultivators have become landless and no one knows as to what they are doing. The ideal thing on the contrary should have been to have a proper and optimum mix of agriculture and industry. This point will be touched a little later in some greater detail when the question of the limits to growth will be discussed.

4. Yet another prominent aspect that strikes almost immediately is that perhaps Mandideep has expanded beyond what the local resources can sustain. It has reached a point when it has to be decided that there should be no further expansion and no more acquisition of private land or transfer of Government land should be resorted to.

5. Lot of land has been acquired by the Industries Department. They must maintain detailed records, on the lines of the records maintained by the Revenue Department in respect of these lands. A copy of the revenue village map must be kept and each plot allotted to the industrialist should be related to the Khasra number in the patwari map and a register showing this relationship should be maintained. Secondly, a register on the lines of the khasra showing the plots, their area and the name of the allottee, the right in which allotted, should be maintained. This register should also contain either annual or bi-annual entries showing the activity being carried on on that plot. Thirdly, a detailed map showing the sub-division of khasra numbers into the plots, their number and area should be maintained. Fourthly, there should be a register showing the premium/rent recovered from the

allottees, details of payments, chalan numbers for the treasury deposit etc., should be kept.

6. There are large number of plots lying vacant and somebody should keep a watch on them and their record kept. Encroachments should never be permitted. In other words, a complete discipline of land records, their maintenance and periodical review, regular spot inspections to detect violation of the lease conditions or unauthorised sub-letting or constructions, should be adopted. The model here indicated may use fully be adopted in other growth centres as well. Officers with the supporting staff should be appointed at the very beginning of setting up of a growth centre and they should be properly trained in maintaining these records.

7. There exists a Gram Panchayat in this village, but it seems to be non-functional because, as stated above, the village as defined under the revenue law no longer exists. Clearly, it is the responsibility of the Industries Department to set up a local body, invested with requisite powers, to deal with questions of local importance including regulatory functions. As a matter of fact, this question is assuming importance today and will have immediate relevance to all the growth centres that are coming up in this State. Matters such as town planning, land use, municipal functions like sanitation, lighting, water supply, etc., and other civic matters, including taxation, will need attention on day-to-day basis and what kind of institutional arrangements are to be laid on the ground, is a question that should be urgently decided.

8. The detailed plan of the complex as prepared by AKVN, needs a second look from various angles. It would be desirable if SCI and PS, H&E, sit together and review it. If necessary, they may set up small working groups on different aspects of the township planning and then incorporate their suggestions.

9. Provision of a service road on the left side of the national highway (i.e. HEG complex side) is absolutely necessary and steps be taken to construct it. If necessary, strips of land be taken out of the lands already allotted, for purposes of this service road.

10. Principal Secretary, H&E, said that it is very necessary to assess the growth of the township in its total perspective, and its implications, among other, in the following sectors :—

- (i) Housing and Commercial Housing;
- (ii) Roads;
- (iii) Water supply;
- (iv) Sewage and drainage;
- (v) Civic amenities—Schools, hospitals, training institutes; and
- (vi) Environment.

Even at this stage, serious thought should be devoted to those matters and they should be analysed in depth. It would be necessary to lay down parameters of growth and development to be followed in future. SCI & PS, H&E, will jointly go through this question.

11. Looking to the nature and pace of industrialization/urbanization in this region, application of the concept of regional planning can no longer be postponed. Principal Secretary, H&E, will immediately take up this matter and set up a group to first identify and demarcate this region and secondly, to prepare the regional master plan within a time bound programme. *The main thrust of this plan should be for planned and systematic industrialisation/urbanisation and preserving agriculture to the maximum possible extent.*

12. In the over-all perspective of the Bhopal-Mandideep region, the question of diverting the traffic on N.H. 12 from Jabalpur side via Chiklod road and then on to the Raisen Road should receive urgent attention. It would be desirable to provide a proper bypass for the capital town and also to reduce the congestion on the Baidullaganj-Bhopal road.

13. The environmental aspect of this township has almost been totally ignored. Inescapably, the approach must change and the AKVN must expend more outlays on environment as well. It was decided that 600 acres of forest land adjacent to the newly constructed sheds shall be put under afforestation. The district authorities shall immediately prepare a project in this behalf and the AKVN was provide funds.

14. 212 acres of land acquired under phase II in the 'Tal' area immediately below the ridge where the new sheds are under construction, is the most fertile agricultural land. A couple of industrial units (ice factories) are under construction and about a dozen plots have been allotted. By and large, the area is open. It was decided that this whole area should be developed as a garden and park. The plots allotted and shown in the red (in the map signed by me) may be shifted to the front area along the road, and the two ice factories which are nearing completion may be allowed to remain. This has been marked on the map.

15. The plantation that is being done along the road side is mostly of ornamental variety. Hereafter, plants of indigenous origin and mainly of fruit bearing type, such as Sitafal, Mango, Mahua, Jamun, Imli, etc., as well as those which give shade, should be planted on large numbers right from the coming season.

16. An assessment of housing requirement was made years ago and a Housing scheme in an area of 300 acres of land was prepared. The scheme envisages 1600 plots in an areas of 187.32 acres of saleable land, while 112.68 acres of land fall under infrastructure and green belts. The proposed complex is being thought of to accommodate 4800 families on the basis of ground+two construction pattern.

17. Industrial housing is going to be a major problem in this township in the foreseeable future. The

total work force at saturation on the basis of 315 units who have already taken land at Mandideep would be 21,000. This work force include 10,000 families from Mandideep and at least 10,000 from Bhopal. On the Abadi land of the village, the BDA as well as the Board have constructed single house tenements. This is just an example as to how different agencies of Government are working in isolation and at cross purposes. There is no escape from putting up multi-storey flats here for accommodating the labour population Ground+3 would be the minimum; if provision for lifts could be included in this planning, the ideal thing would be to construct tenements of the dimension of ground+6. *Under no circumstances should the Industries Department be allowed to acquired any more agricultural land for housing purposes.*

18. The first question that has to be settled is the agency and the rights in which these houses will be constructed. Will the entrepreneurs themselves put up these colonies for the labour force? Or the Cooperative Societies of the industrial labour will be allotted small pots of land and they will construct the houses on their ownership bases? The third alternative could be the institutional arrangement viz : the Housing Board or the BDA putting up the houses and allotting them on rental basis. In the first alternative, the difficulty could be that as and when the industry closes down and the entrepreneur moves out, he would like to dispose of the housing colony by sale. What will happen to the labour force occupying these houses? A lot of profiteering will be involved too. If the plots are allotted to the Cooperative Societies, the problems of setting up a permanent township will crop up. As regards the last alternative, it is doubtful whether the agencies like the Housing Board/BDA will venture to invest their funds in a project like this where housing of private industrial labour is involved.

19. By far the most serious constraint impinging the development of the township is the question of water supply. 3 MGD water scheme based on Dahod irrigation tank is operational since November, 1985. It is catering to the water requirement of industries at Mandideep. Another 0.2 MGD water supply scheme is operational at Mandideep, which is feeding water to old industrial area. These two schemes are just sufficient to meet the industrial water supply at Mandideep.

20. Water requirements for the housing colonies and other domestic purposes have really not been assessed and provided for on a realistic basis. A rough assessment for only 5000 families (as against 21000 at the saturation point has indicated the requirements at 0.75 MGD. This is very much on the low side because the number of families will surely be at least 10,000, if not more, in the immediate future. The present water supply system at Mandideep is not in a position to spare water for domestic consumption at Mandideep. That is not a sound planning. The future water requirements of the entire township, including the housing colonies, should be planned on the following principles :—

- (i) Water use by the industry should be rigorously controlled. There is lot of wastage in the industrial units and the township

authorities should scrutinise the water requirements of each unit and fix a limit on it;

- (ii) The principle of recycling should be conforced. As a matter of fact, the limit under (i) above should be fixed after giving due allowance for the recycling quantum;
- (iii) The enormous losses that are taking place today in the open canal conveyancing from the Dahod tank should be brought down to almost zero by laying a pipe line all along. This should be an item of top priority in this sector;
- (iv) Exploitation of the ground water resources;
- (v) River pumping from Betwa and Kaliasot which are nearby; and
- (vi) As a last resort, some additional supplies if available, could be obtained from the Kolar Project, especially for domestic consumption.

The Commerce & Industry Department should give serious attention to this water supply planning right from now and finalise the proposals with specific linkages use-wise as well as from financial angle.

No. 157/CS/86 Bhopal, dated the 29th March, 1986.

Copy forwarded for information and necessary action to :

- (1) The Principal Secretary to Govt., M.P., H&E Department.

- (2) The Secretary to Govt., MP, C&I Deptt. (with 3 spare copies).
- (3) The Secretary to Govt., MP, P. W. Deptt.
- (4) The Secretary to Govt., MP, Forest Deptt.
- (5) The Secretary to Govt., MP, PHE Deptt.
- (6) The Secretary to Govt., MP, Irrigation Department.
- (7) The Commissioner, Bhopal Division, Bhopal.
- (8) The Managing Director, AVN, MP, Bhopal.
- (9) The Director, Town & Country Planning, Bhopal.
- (10) The Engineer-in-Chief, PHE, Bhopal.
- (11) The Engineer-in-Chief, Irrigation, Bhopal.
- (12) The Director General of Forests, M.P., Bhopal.
- (13) The Collector, Raisen.
- (14) The Collector, Bhopal.
- (15) The Divisional Forest Officer, Raisen.
- (16) The Secretary to C.M., for information.

K.C.S. ACHARYA,
Chief Secy. to Govt., MP.

MAHARASHTRA

MATERIAL FOR PRESENTATION TO THE NATIONAL COMMISSION ON URBANISATION DURING THEIR VISIT TO THE STATE

22-24 October 1986

AN OVERVIEW OF URBANISATION OF MAHARASHTRA

1.1. *Introduction.*—Maharashtra with 35 per cent of its population in urban areas is the most urbanised State in India. This is a reflection of growth and structure of its economy. Though Maharashtra's Net State Domestic Product (NSDP) has grown at a rate marginally higher than that of National Domestic Product, it has undergone substantial structural changes in the last two decades.

TABLE No. 1

STATEWISE LEVEL OF URBANISATION

State	Level of urbanisation in 1981 (per cent of urban population to total population)
1. Maharashtra	35.03
2. Tamil Nadu	32.95
3. Gujarat	31.10
4. Karnataka	28.89
5. West Bengal	26.47
6. Manipur	26.42
7. Punjab, Haryana and Chandigarh	26.18
8. Andhra Pradesh	23.32
9. Rajasthan	21.65
10. Jammu & Kashmir	21.05
11. Madhya Pradesh	20.29

The share of primary sector in NDP in 1981 is 42.5 per cent. In NSDP, however, the primary sector's share was 41.8 per cent in 1961 itself. This has further gone down to 28.6 per cent in 1981. Furthermore, the share of primary sector in the incremental NSDP during 1976-81 has been only 12 per cent. Maharashtra's urbanisation is thus not a demographic phenomenon alone, but a result of persistent changes in its economy.

TABLE No. 2

SECTORAL SHARES IN NATIONAL AND STATE ECONOMY,—1961—81

Sectors	Sectoral Shares in per cent					
	National Domestic Product			Net State Domestic Product		
	1961	1971	1981	1961	1971	1981
Primary	56.6	50.1	42.5	41.8	28.6	28.6
Secondary	17.0	19.7	21.3	26.4	34.2	34.5
Tertiary	26.4	30.2	36.2	31.8	37.2	36.9
Total	100	100	100	100	100	100

Source : (1) 'Maharashtra Urban Development Project', Report prepared by 'Maharashtra Housing and Area Development Authority'.

(2) 'National Income Accounting', by Roy & Choudhary.

1.2. *Regional Variations of Urbanisation.*—Although Maharashtra is the most urbanised State, the level of urbanisation is not uniform over various parts of the State. Maharashtra is administratively and geographically divided into 4 broad regions viz. Konkan, i.e. Coastal Maharashtra, Western Maharashtra, Vidarbha and Marathwada. The level of urbanisation in each of these regions is shown below :—

TABLE No. 3

LEVEL OF URBANISATION IN VARIOUS REGIONS, 1981

Region	Total Population ('000)	Urban Population ('000)	Urbanisation (per cent)
Konkan	15,193	10,110	66.55
Western Maharashtra	23,519	6,368	27.03
Vidarbha	14,343	3,744	26.10
Marathwada	9,729	1,781	18.31

The Coastal Maharashtra which includes Bombay has the highest proportion of urbanisation whereas Marathwada has only 18.3 per cent urbanisation.

The regional variations in urbanisation are partly explained by the distribution of manufacturing activity. The regional distribution of manufacturing activity during 1977-79 is shown in the following table :—

TABLE No. 4
REGIONAL DISTRIBUTION OF MANUFACTURING
ACTIVITY, 1977-79

Region	Factories (per cent)	Employ- ment (per cent)	Value Added (per cent)
Konkan	61.2	63.5	75.8
Western Maharashtra	27.3	25.5	18.6
Vidarbha	8.5	7.5	4.0
Marathwada	3.0	3.5	1.6
Total	100	100	100

Source :—The Bulletin of Economics and Statistics (July—September 1983) : A report on the Industries in the Districts of Maharashtra State for the block year 1977-79.

1.3. *Intra-Regional Variations.*—Even within the regions, urbanisation is dominated by large urban centres, such as Bombay Metropolitan Region, Pune and Nagpur Urban Agglomerations. If these cities are excluded from the respective regions, the level of urbanisation reduces quite considerably as illustrated below :—

TABLE No.
SHARE OF MILLION+ CITIES IN LEVEL OF
URBANISATION,—1981

Region	Urbanisa- tion in Region (per cent)	*Share of million + cities in the Region (per cent)	Urbanisa- tion in the Region excluding million cities (per cent)
Konkan	66.55	96.90	7.56
Western Maharashtra	27.03	26.52	22.67
Vidarbha	26.10	34.78	19.35
Marathwada	18.31	Nil	18.31
Maharashtra	35.02	58.13	18.89

*Represents Bombay Metropolitan Region, Pune and Nagpur Agglomerations.

Coastal Maharashtra excluding Bombay turns out to have a lowest urbanisation of 7.6 per cent. As compared to this, urbanisation in Western Maharashtra and Vidarbha is more evenly distributed. These regions where urbanisation is more evenly distributed also happen to have better provision of basic infrastructure such as irrigation, roads, railways etc. The overall economic development which has been possible on account of such infrastructure has probably led to better distribution of urban development.

1.4. *City-Size Distribution.*—Classwise distribution of number of cities and population is shown in Table below :—

TABLE No. 6
CLASSWISE DISTRIBUTION OF CITIES AND URBAN POPULATION, 1971-81

Size-Class of City/Town (with Population range)	1971			1981			1971-81 Growth rate (p.c.p.a.)
	No.	Population (‘000)	Per cent	No.	Population (‘000)	Per cent	
I (1,00,000+)	17	10,173	64.75	29	15,741	71.57	4.46
II (50,000-1,00,000)	25	1,740	11.07	25	1,720	7.82	—0.12
III (20,000-50,000)	65	1,840	11.71	89	2,617	11.90	3.59
IV (10,000-20,000)	93	1,379	8.78	100	1,473	6.70	0.66
V (5,000-10,000)	70	532	3.39	48	388	1.76	—3.11
VI (Below 5,000)	14	47	0.30	16	55	0.25	1.57
Total	289	15,711	100.00	307	21,994	100.00	3.42

As may be seen that the proportion of urban population in Class-I cities has increased from 65 per cent to 72 per cent, but during the same period the number of Class-I cities has also increased from 17 to 29. It is quite common to conclude from such statistics that larger cities are growing at a faster rate. However, comparison of growth-rate would be valid only if population of the same cities is considered. For example, the growth-rate of population in Class-I cities as shown in Table above is 4.46 per cent per annum. However, if we consider the 1981 population of these 17 cities which appear in 1971 as Class-I cities, then the growth-rate will be only 3.4 per cent per annum. Furthermore, metropolitan cities (*viz.* Greater Bombay, Pune and Nagpur) have combined growth-rate of 3.32 per cent per annum, the population of remaining Class-I cities in 1981 when compared with population of Class-I cities excluding metro cities in 1971 represents a growth-rate of 7.42 per cent per annum.

URBANISATION

2.1. *General Trends.*—The trend of structural changes in Maharashtra's economy is expected to continue. The share of primary sector which was 28.6 per cent in 1980-81 is expected to reduce to 17.56 per cent by year 2001, while the overall economy is expected to grow at the rate of 4.8 per cent per annum.

TABLE 7
SECTORAL SHARES IN PROJECTED STATE INCOME

Sectoral income (in crores)	Years			Growth- rate during 1970-71 to 2000-01
	1980-81	1990-91	2000-01	
Primary	1670	1957	2302	3.2
(%)	(28)	(21)	(17)	
Secondary	2131	3510	6178	5.2
(%)	(35)	(38)	(39)	
Tertiary	2244	3876	6975	5.4
(%)	(37)	(41)	(44)	
Total	6045	9343	15955	4.8
	(100)	(100)	(100)	

Source : 'Second Maharashtra by 2005 : A Study in Futurology', by Tata Economic Consultancy Services.

Maharashtra's overall population is expected to be over 90 million by year 2001. The share of urban population responding to the structural changes in economy is expected to reach a level of 45 per cent by 2001. Interestingly, however, the share of urban population in the total incremental population during 1996-2001 is expected to be as high as 73 per cent.

TABLE 8
PROJECTED TOTAL AND URBAN POPULATION OF MAHARASHTRA 1971-2001

Year	Total Population ('000)	Incremental Population ('000)	Urban Population ('000)	Incremental Urban Population ('000)	Percentage of Urban Population to Total Population	Percentage of incremental Urban Population to incre- mental Total Population
1981	62,784	—	21,994	—	35.03	—
1986	69,174	6,390	26,240	4,246	37.93	66.45
1991	75,946	6,772	30,617	4,377	40.31	64.63
1996	83,178	7,232	35,552	4,935	42.74	68.24
2001	90,455	7,277	40,890	5,338	45.20	73.35

Source : 'Report of the Task Force on Urbanisation, appointed by Government of Maharashtra (1981).

2.2. *Problems of Urbanisation.*—Problems of urbanisation can be conceived at three different levels :—

- Imbalances in inter-regional levels of Urbanisation;
- Imbalances in city-size hierarchies and excessive concentration in large cities; and
- Problems at the local city level.

2.2.1. *Inter-regional imbalances.*—The inter-regional imbalances in urbanisation have been described as they existed in 1981 and earlier. Though detailed forecasts of these parameters are not available for year 2001, it is likely that similar pattern would

continue in future also. Even though balanced urban development is desirable, it cannot be attempted or achieved in isolation from economic development. Unless economic development at certain level is attained, urban development cannot be self-sustaining. In order to achieve balanced development of the State as a whole, the policy intervention could be by way of providing basic infrastructure needed for economic uplift of the backward areas and by directly introducing new economic inputs. Thus Konkan Region of the State lacks railway, which needs to be provided for achieving the Region's development. Similarly, Marathwada Region of the State has only meter-gauge railway, and no significant stretch of national highway passing through it. These factors have contributed

to economic backwardness of these Regions as compared to the other parts of the State.

The State Government has been conscious of the above problem and has been orienting its policies accordingly. The present criterion for deciding allocations for district level schemes duly takes into account the differential levels of economic development in various districts. And hence the operative index deciding the extent of allocation of funds to each district gives due weightage to level of the district's backwardness in areas of agriculture, irrigation, industries, communications etc. But still, this approach can create marginal impact on the situation, since investment in major schemes like the railway projects, major irrigation and power projects etc. has to come through State/National Plans.

The industrial policy adopted by the State earlier and more specifically in the Seventh Five-Year Plan aims at balance industrial development of the State. The idea is to promote industries in backward regions by offering a package of incentives, developing industrial estates in backward areas, imposing restrictions on establishment/expansion of industries in Bombay, laying stress on development of cottage and small sector industries, etc. Thus over a period of time and given conscious efforts, the regional economic disparities could be reduced and picture of more evenly balanced economic development and consequently that of balanced urbanisation of the State as a whole can emerge.

2.2.2. City-size distribution.—As is evident from the contents of Table No. 6 in para 1.4 and Map No. 2, taking State as a whole and its regions independently, the city-size distribution is extremely skewed one, especially in Konkan and Western Maharashtra Regions, while the Marathwada Region lacks a leader primate city.

There is a general tendency to consider skewed city size distribution as a problem *per-se*, and policies for checking the growth of large cities are advocated. However, correcting the skewed distribution is indeed a very difficult task, e.g. if the growth-rate of metropolis like Bombay is to be reduced by 1 per cent, and this growth is to be diverted to 5 cities of 1 lakh population each, it would amount to increasing the normal growth-rate of these cities by 20 per cent per annum. As will be appreciated, this is not going to be possible or practical. As cities act as networks for diffusion of innovations and economic integration (rural service centres, market towns, district administrative headquarters and large metropolitan cities which provide high level services), it is desirable to have a balanced functional hierarchy of cities. The normal experience has been that basic economic development of the region gradually leads to balanced city-size distribution.

One attempt being made in this direction of reducing population burden on Bombay is the Maharashtra Urban Development Project being formulated. It aims at identifying other growth centres where investment in the urban development sector, particularly in the field of shelter, services, transport and institutional framework should be directed. It has initially

identified 10 cities of second order for massive investments with the assistance of the World Bank. Similarly small and medium towns are being helped by way of direct investment for strengthening their internal infrastructure under the Centrally Sponsored Scheme of Integrated Development of Small and Medium Towns (IDSMT). It is felt, however, that size of town alone should not be the criterion for investing scarce resources. It is necessary to ascertain the growth potential of various regions for selecting cities for intensive efforts, which can have desirable spin-off effects. The growth centres identified in various Regional Plans would be the obvious choice for such investments.

2.2.3 Problems at the local level.—As is indicated earlier, the policies aimed at restoring regional as well as city-size balances may achieve desired results over a long period of time. In the short run, the growth of large cities has to be contended with. Growth for Bombay Metropolitan Region at a modest growth-rate of 3.56 per cent per annum means a large absolute annual growth of about 3½ lakhs of population. The second order cities like Pune, Nagpur, Nashik and Aurangabad are also growing at similar rates due to growth dynamism or economic inputs like major industrial units. Having attained such a large city-size, such rapid growth poses many problems in provision of efficient service infrastructure in resource efficient way.

Inequities in income distribution has been a common developmental problem in India. The proportion of urban poor which was about 38 per cent in 1977 has come down to around 28 per cent in 1983. Though there has been such reduction in absolute poverty, the relative poverty in urban areas is significantly higher and its visible manifestation is seen particularly in delivery of services like water supply, education, health services and above all; shelter. Along with this problem of equity in urban development, there is also problem of efficiency in delivery of various services at local level. A common set of problems experienced at the local level can be summarised as follows :—

- Lack of adequate investment in urban infrastructure.
- Lack of adequate supply of serviced land, particularly for the poor either through public or private sources.
- Lack of institutional finance for housing, particularly for low income families.
- Impediments inherent in the development management system for the poor to carry out informal economic activity and to have affordable shelter.
- Lack of organisational resources-skilled manpower, equipment etc., for delivery of civic services in an efficient and equitable manner.
- Inadequate, weak and low user charges and property tax mechanism which affect operations, maintenance and delivery of services.

Degradation of physical as well as socio-cultural environment due to unguided/unchecked urbanisation process.

INSTITUTIONAL AND LEGAL FRAME-WORK

3.1. General.—Urban development is a complex phenomenon representing an interplay of various sectors and activities. The accompanying chart indicates the major Government Departments, their field agencies and the various legislations which have a bearing on urban development.

3.2. Urban Development Department.—The Urban Development Department along with the Department of Housing and Special Assistance, are involved in framing general urban development policies, formulation of projects and for their monitoring. Maharashtra Regional and Town Planning Act, 1966 is the principal Town Planning legislation providing for preparation of (1) Regional Plans for problem regions; (2) Comprehensive Development Plans for municipal towns; and (3) Town Planning Schemes for implementation of Development Plans and for increasing supply of serviced land in the market. It also contains provisions for land acquisition, development control and establishment of New Towns. Basically the municipal corporations and the municipal councils which are the 'Planning Authorities' under the Town Planning Act, are the prime agencies working in the field of urban development. Out of the total 291 settlements classified as urban in the 1981 Census, as many as 227 are governed by some form of municipal authority (11 are Municipal Corporations and the remaining 216 Municipal Councils). The State Town Planning Department prepares Development Plans on agency basis on behalf of the municipal corporation/councils. Excepting for the six newly established municipal towns, Development Plans for all the remaining municipal towns have been prepared, some of which are under revision. The municipal corporations/councils are expected to implement these Development Plans by selective acquisition of amenity sites and controlling private development in remaining areas through zoning and sub-division regulations. A few of the municipal councils/corporations have also taken up Town Planning Schemes within their areas. Like in Bombay, most of the western suburban development, viz. Bandra, Andheri, Vile Parle, Santa Cruz etc. is the outcome of Town Planning Schemes. About 100 such schemes have been undertaken in the State.

As regards the Regional Plans, so far, Metropolitan Regional Plans for Bombay, Pune and Nagpur Regions; City Regional Plan for Nashik, Kolhapur-Ichalkaranji and Aurangabad-Jalna Regions, District Plans for Sangli, Jalgaon, Chandrapur and Ratnagiri-Sindhudurg District Regions and Regional Plan for environmentally sensitive Mahabaleshwar-Panchagani Region have been prepared. They aim at balanced regional development within the respective regions by advocating efficient utilisation of the resources and reorientation of the settlement structure therein.

Bombay Metropolitan Regional Development Authority (BMRDA) has been established under an enactment, for implementing the proposals of the Bombay Metropolitan Regional Plan, with monitoring, co-ordination, financing and implementation functions. In case of other Regional Plans, major physical planning proposals viz. establishment of new towns are

executed through Special Planning Authorities (SPA)/ New Town Development Authorities (NTDA) like (i) City & Industrial Development Corporation (CIDCO) in case of New Bombay, New Aurangabad and New Nashik; (ii) Pimpri-Chinchwad New Town Development Authority (PCNTDA) in case of Pimpri-Chinchwad New Town; and (iii) Nagpur Improvement Trust (NIT) in case of New Nagpur etc. So far as other proposals are concerned, the Regional Plans at best serve as a regulatory mechanism for guiding the physical development.

3.3. Industries Department.—Through provision of infrastructure, fiscal policies of incentives and disincentives and regulatory legislations, the Industries Department influences industrial development in the State, which in turn help in deciding the shape of urbanisation. The Maharashtra Industrial Development Corporation (MIDC) provides serviced industrial plots, agencies like the Maharashtra State Finance Corporation (MSFC), State Industrial and Investment Corporation of Maharashtra (SICOM) and District Industries Centres (DICs) through their financial aid influence the locational aspect of industries.

3.4. Housing and Special Assistance Department.—The Urban Land (Ceiling & Regulation) Act (ULCR), the Rent Control Act, the Slum Improvement & Clearance Act are the principal legislations affecting the supply of serviced land and shelter in the market. In addition, the Maharashtra Housing & Area Development Authority (MHADA) created under a special enactment is the field agency of the Housing Department. Its functions include (i) provision of serviced land and shelter; (ii) upgradation of existing housing stock in Bombay through repairs and renovations of old cessed buildings; and (iii) environmental improvement of slums.

3.5. Other Departments.—Maharashtra Water Supply and Sewerage Board (MWSSB), a field agency of the Urban Development Department, the Industries, Energy and Labour Department through Maharashtra State Electricity Board (MSEB), the Department of Transport through Maharashtra State Road Transport Corporation (MSRTC) provide necessary infrastructure in the State. Apart from these, the recently established Department of Environment, through pollution control measures, safeguards environmental conditions.

POLICY ISSUES, ADEQUACY OF EFFORTS AND REFORMS NEEDED

4.1 Policies regarding Metropolitan Cities

4.1.1. Restructuring of Cities.—Despite efforts for balanced urban development, primacy of metropolitan cities would continue. Notwithstanding the problems, such cities play special role. It is often in the metropolitan cities that new innovative ideas and inventions are born, thanks to sophisticated institutional network which mostly owes its existence to the metropolitan life and level of services available there. Ways have to be found out to cope with the growth of the city in a resource-efficient manner. Historically-

evolved city-structure may be found inefficient in meeting the growing demands of infrastructure. Moreover its continuation puts excessive demand on scarce resources. Better option is to reorient the city growth by restructuring it. Like in case of Bombay, its peculiar peninsular geography and mono-centric structure, over the time has added many problems of services and infrastructure. Its restructuring by (i) reorienting its growth to poly-nodal pattern of development by developing New Bombay, Kalyan Growth Centre, Bandra-Kurla Complex and (ii) relocation of major job centres by way of shifting of wholesale trading activities, new industrial and office jobs from southern tip to new nodes is a must. The State Government is attempting this. In case of Pune, Pimpri-Chinchwad New Town is being developed as another node, as per the recommendations of the Pune Metropolitan Regional Plan. The recently prepared Revised Development Plan of Pune also contains proposals of development of as many as seven district centres to relieve pressure on the central commercial areas.

4.1.2. Recycling city's economy.—Some of the economic activities, which get located in initial phases of city-life in response to the economic conditions prevailing then, lose their relevance in the changed contexts, particularly due to technological obsolescence. They many times are also space-extensive, occupy prime locations; but their contribution to the city's economy is not commensurate with the locational advantages they enjoy. Their continuation at present locations also means wasteful use of prime urban lands which in the changed circumstances become scarce and precious. A break-through could be to replace the older economic activities with the new ones. Obviously, the priority in shifting need go to industries which are hazardous and/or cause pollution. With properly administered fiscal and regulatory measures they could be made to move out in more conducive environment which would also be in keeping with the economic dispersal policy of the State. This will have manifold advantages of (i) reducing congestion, (ii) accommodating along with these new industries, many amenities of which the central city parts are starved, without impairing the city's economy.

4.1.3. Cities with special status.—Apart from their normal functions, some cities, due to their strategic location, high level of sophistication achieved, strong social, economic and cultural linkages and institutional frame-work of very high order, perform functions which transcend their immediate geographical boundaries. Like even though Delhi is the National Capital, Bombay has the distinction of being India's prime city in many fields due to existence of a number of institutions of international repute, trading links in the international market etc. Such cities of Regional or National importance therefore deserve special attention in resource allocation in State and Union budgets.

4.2. Land Management

4.2.1. Alternatives.—Land, in its undeveloped state, cannot be used for urban development. It has to be improved upon by provision of service infrastructure.

For this purpose at least some marginal intervention of the public agencies is a must, since provision of service infrastructure involves certain social overheads, which are not adequately provided for by the private market mechanism. The private market also tends not to cater for the low income sections.

In Maharashtra, three principal ways adopted to intervene in the land market are (i) Bulk acquisition of land and allotment of serviced plots after development; (ii) Selective acquisition of land for providing social and physical infrastructure, and regulating development in remaining areas through zoning, subdivision regulations and building bye-laws; and (iii) Town Planning Schemes.

The method of bulk acquisition has been used for new town developments being undertaken by CIDCO, PCNTDA, NIT and MHADA. The most notable example of this has been New Bombay, where 11,235 hectares of land has been obtained by CIDCO for development. Financially also, the proposition of using land as a resource for urban development has been fairly successful in this case. At the same time CIDCO has succeeded in attaining the proportion of 70 per cent of its housing beneficiaries in EWS and LIG categories.

The Municipal Corporations/Councils largely resort to selective acquisition for provision of amenities. Apart from the procedural delays in land acquisition, this technique does not allow capturing of the unearned income accruing to private land-owners on account of the improvements. This has the result of infrastructural development tending to lag behind.

Town Planning Schemes which have been in practice in Maharashtra since 1915 aim to achieve (i) mopping up of unearned income, (ii) automatic vesting of amenity sites in Planning Authority, (iii) no displacement of original land-owners and (iv) participation of private market in urban development with due control on its exploitative tendencies. Around 100 such Town Planning Schemes have been operated in various cities and towns of the State. For example, in major parts of western suburbs of Bombay, this technique has been used with promising results. The problems experienced in this technique are :

- (a) delays on account of legal procedures;
- (b) infrastructure costs in practice are not fully recovered; and
- (c) supply of serviced land to low income group is not ensured.

The State Government is considering ways of alleviating these problems.

4.2.2 Additional Measures.—Apart from the above, the land due to its high value can also indirectly be used as resource, especially in metropolitan cities. In Maharashtra, there is already established practice of exchanging FSI for widening of roads in congested parts. The owner relinquishing land required for road widening can use FSI of surrendered land as bonus FSI in his remaining plot, the condition being he does not claim any compensation for loss of area and the

additional FSI made permissible does not exceed 40 per cent of otherwise permissible FSI of the net plot. This drastically reduces financial burden on the planning authority due to compensation.

4.2.3 Effect of ULCR Act : The Remedies.—Objectives of ULCR Act have not been fully achieved due to problems in implementation. It has led to squeezed supply of buildable land in open market, creating artificial scarcity due to tremendous pressure on non-surplus vacant land and consequent spurt in land prices. The State Government is well-seized of the problems and as one way of stepping up supply of low cost small dwelling units and serviced land, has recently announced a new scheme under section 20 of the ULCR Act. This new scheme gives greater emphasis on serviced plots than finished tenements, allows 15 per cent rate of return on investment acts as price controlling mechanism and has a flexible allotment policy, of course with Government's right of pre-emption. The impact of the scheme is, however, yet to be seen.

4.3. Shelter.—The most visible manifestation of shelter problem has been the proliferation of slums. Inadequate supply of serviced land and affordable shelter at optimum locations has been the root cause. As much as 40 per cent of the population in million plus cities lives in slums. In Bombay, the proportion is as high as 50 per cent. Since poors would be forming a vast majority of the incremental urban population and the share of incremental urban population would itself be as high as 73 per cent by 2001, dimensions, this problem would be acquiring by then, can be imagined.

Apart from the urban poors, the middle class too is badly hit because of the shelter crises. The situation is further worsened due to unintended impacts of the ULCR Act and the Rent Control Act, which have squeezed supply of buildable land in market and discouraged investment in housing sector.

The strategy therefore is (i) to promote creation of efficient housing stock to meet the demands of the incremental population, (ii) to promote conservation of the existing housing stock to effectively prolong its life and (iii) till the time adequate supply of affordable shelter is ensured, to improve environmental conditions of existing slums.

Attempts of the State Government and public agencies responsible for housing, till recent times laid more emphasis on provision of finished tenements. This tended to consume vast financial resources and give comparatively poor output in terms of numbers. Over last 35 years, the total output by the whole of public sector is mere 2.00 lakh dwelling units. Considering the incremental urban population as well as the need of replacement of old housing stock, need due to breaking up of joint families, rise in family income; the net annual housing requirement would be to the tune of 1.75 lakh dwelling units for coming 5 years alone. Out of this around 40 per cent could be catered for by the public sector. The policy now adopted therefore reflects a major shift from finished tenements to provision of serviced land. Given the

assured tenure of serviced land, the experience shows that considerable amount of resources are mobilised for incremental shelter improvement even by households of modest income. Other way of stepping up private sector investment is ensuring increased institutional finance. Recently the State Government has decided to establish a State Housing Finance Corporation for this purpose. Government also has under its consideration a proposal to exempt newly constructed properties from the provision of the Rent Control Act for some initial period.

The Maharashtra Housing and Area Development Authority is also entrusted with the work of carrying out repairs of old buildings in Bombay in order to conserve the existing housing stock of about 20,000 (Pre-1969) buildings. Another policy decision taken by Government is to vest ownership of such buildings in the co-operatives of the tenants and to assist the co-operatives to undertake structural repairs or reconstruction through monetary and other assistance. In addition to providing incentives for repairs to the landlords, the Government also intends to modify provisions of the Rent Control Act.

Till the time, the above efforts make a dent on the housing problem and ease out the situation, Government intends to pursue vigorously the scheme of Environmental Improvement of Slums. Some of the new features are (1) conferring tenural rights on slum-dwellers, (2) provision of inexpensive physical infrastructure in the form of low cost latrines, tubewells etc., (3) community participation by way of formation of co-operatives, and (4) involving voluntary organizations for educating the slum-dwellers for appropriate use and maintenance of services etc.

Government is also contemplating giving assistance to public agencies by allowing flexibility in operation of Development Control Rules and liberalized Planning Standards for their E.W.S. schemes. This should ensure reduction in excessive areas under community facilities and make the schemes financially more viable by effective use of scarce urban land.

In practice at present there is no long term perspective for housing and urban infrastructure. The Maharashtra Urban Development Project is, however, being prepared. It attempts to identify the housing and infrastructure gaps and the major urban centres to be tackled on priority by direct investment.

Some additional problems which need be tackled are as follows :

Slums on Central Government lands pose big constraint in their improvement since the Government of India does not allow improvements in such areas.

The position is further aggravated as no alternate land is made available for their relocation. It would appear that the Government of India should consider liberalizing its policy in this regard and allow improvement works on such lands.

In environmental improvement schemes the normal ceiling on expenditure per household is Rs. 250. This needs to be suitably increased in cases of slums situated in difficult terrain, viz. marshy lands, hill slopes etc.

There is also need of change in the outlook of municipal bodies towards the slum-dwellers. The approach till now has been of sanitizing the slums. Instead the development of the slum area should take place as a part of regular development programme. This would necessarily require adoption of regular maintenance and sanitation effort. This would consequently also require the municipal bodies to suitably levy municipal taxes in order to generate resources.

There is also need for integrating the slum needs with city master plans as well as the schemes of free schooling, nutrition, health, employment and other related programmes of the State Government, on the model of the Urban Community Projects undertaken under the auspices of the UNICEF.

4.4. Water Supply and Sanitation.—Piped water supply is available in as many as 224 towns out of 227 municipal towns. Even then due to increased demands of rapid urbanisation over-straining of the system is a common phenomenon. Augmentation of the system for almost each of the town is envisaged and the schemes are at various stages of implementation.

Similarly in keeping with the current norms, 16 out of the 17 cities having population more than one lakh cities are covered by under ground sewerage schemes. This covers 62 per cent of the total urban population in the State. In other towns the emphasis is on low cost sanitation technique. Currently the scheme of converting basket type latrines into flush types is in progress in 66 towns.

Apart from the increase demands of water the other difficulties being faced are (1) non-availability of assured source of Water Supply within reasonable distance adding to the capital cost of the scheme, (2) low capabilities of the municipal bodies for undertaking the projects and their maintenance, operation and efficient recovery of user charges; and (3) inability of municipal bodies to generate enough financial resources for meeting the capital expenditure of water supply schemes.

The State Government, about a decade ago, has established Maharashtra Water Supply and Sewerage Board. It undertakes formulation and execution of water supply and sewerage projects. In case the municipal bodies desire so and hand over the schemes with assets, the Board also undertakes operation and maintenance functions, including recovery of user charges.

As per the prevailing pattern of financing, depending upon the municipal status, Government provides grant-in-aid ranging between 23-1/3 per cent and 90 per cent. Ten per cent cost of the scheme is directly borne by the municipal body. For the remaining part, loan is raised from L.I.C. or through open market borrowings. Experience is that the municipal bodies are unable to provide for even 10 per cent cost of the scheme. Similarly enough loan finance to match the State Government grant-in-aid cannot be made available. For example, in the 7th Five-Year Plan, the State Government has made a provision of Rs. 294 crores as grant-in-aid for which matching contribution

by way of loan amounting to Rs. 320 crores is necessary. Provision for loan in the 7th Plan is, however, mere Rs. 110 crores. In view of this, it is necessary to establish 'Urban Infrastructure Bank' contemplated by the Government of India as early as possible.

4.5. Transportation.—Apart from Housing and Water Supply, the other important sector of urban development is Transport. The strategy need aim at giving high priority to mass transportation and pedestrian movement. Keeping this in view, the Revised Development Plan of Pune contains proposals for (i) pedestrianisation in central parts of the city and (ii) a ring-railway connecting future work-centres and the residential areas. In most of the large sized cities mass-transportation can be efficiently handled by using Bus system. Beyond a certain size, however, as the travel distances increase some other alternative mode is required. At present such a mode is the Railways.

The exhaustive traffic and transportation studies carried out for Bombay also suggest a number of measures to ease out the situation. Some of the measures suggested are augmentation of the suburban railway and opening up new corridors of movement. Of these, the proposal of east-west railway corridor connecting Old Bombay with New Bombay deserves priority.

Railways' input by way of giving due priority to development of suburb railways and allocating adequate resources is very crucial

INSTITUTIONAL REFORMS, CO-ORDINATION FINANCING AND INFORMATION SUPPORT

5.1. Financing Urban Development.—The municipal corporations and the councils primarily being the agencies in the field of urban development are expected to raise resources for meeting the obligations. All the municipal bodies in the State taken as a whole have been mobilizing local resources at the rate Rs. 200 per citizen out of which only 13.64 per cent is by way of grants. Compared to the State's total revenue of Rs. 345 per person. This would represent a fair effort on the part of local authorities in resource mobilisation. Even though there may be some scope for increasing the revenue with conscious and vigorous tax-levying and recovery measures it may be appreciated that after meeting the wage-bill and the maintenance costs they have very meagre resources left for capital investments. Moreover the infrastructure, investments have very long gestation period. What is required, therefore, is long term soft term finance for implementing infrastructure projects (if not outright grants). The proposal of the 7th Five-Year Plan to set-up an Urban Infrastructure Bank is very relevant in this respect and needs to be implemented early.

Urban development receives rather low priority in budget allocations, since it is seen as an unproductive sector and urban development programmes normally tend to have long gestation periods. In 1985-86 State's Annual Plan of Rs. 1,700 crores, provision for programmes for all the agencies contributing to urban development amounts to Rs. 170 crores. Seen

against the share of urban population at about 35 per cent in the State's total population, this would appear rather low. Considering the role the urban settlements play as centres of production, which need conducive environment and also their larger share in G.N.P., urban development sector as a whole need be given larger share in the Union and States budgets.

Secondly as already explained earlier (please refer to Chart No. 3), there are multiple agencies working in the urban development field and influencing its shape. These agencies, reporting to different government departments with no co-ordinating platform, formulate their own budgets as per their priorities and deployment of personnel. Total allocation for urban development as a whole is thus an aggregation of such sectoral demands put forward. This eludes consideration of inter-sectoral linkages and hence dampens the impact of the programmes to a great extent when executed.

It is, therefore utmost necessary to prepare an integrated capital investment programmes, at least for metropolitan cities as sub-plan of National and State Plans. This would also lead to a strong co-ordinating mechanism.

Another serious handicap the urban development sector has, is that the urban development investments usually have a long gestation period, and have the equity objectives in delivery of benefits and hence the present financial institutions do not generally help these kinds of projects. Such projects, therefore, have a serious need for institutional finance which would allow long-term lending (not necessarily at excessively low rates of interest). Urban Infrastructure Banks as recommended by the Planning Commission Task Force on Financing of Urban Development as also mentioned in the 7th Five-Year Plan, needs to be set up fairly early.

5.2 Need of Resource Mobilization Efforts and Reorientation of City Management.—Although Development Plans for almost all the municipal towns and cities have been prepared, they lack integration of physical planning with investment programming. There are also hardly any conscious efforts to mobilize resources for their implementation. Even while providing services and facilities, user charges for all the externalities enjoyed by the beneficiaries are not levied, due to lack of proper appreciation and unscientific accounting practices. For example no parking fees are levied anywhere even though this activity uses quite a precious and scarce road land of quite a long time. It is therefore necessary to make plan-making, project formulation and city management techniques more resource-conscious. This will need reorientation of the related professions. It is also necessary to have specialised education in "City Management", so that professional city managers and not the civil engineers or general administrators appear on the scene. It may be worth-while for one of the IIM's to experiment with such curriculum.

In addition it is also desirable to have in-service training programmes for the middle level executives

in municipal administration to update their knowledge and make them aware of the new issues arising and new dimensions being added to the field. Government has under its consideration a proposal of establishment of Institute of Urban Affairs, on lines of the National Institute, for carrying out research and imparting training.

5.3 Reforms in the Policy Instruments.—Some of the historical fiscal measures have unintended impacts in other sectors as well. For example, the Rent Control Act has distorted the property tax mechanism beyond recognition. Though it is common to complain about exorbitant property prices in Bombay, such prices do not reflect in the property tax yield of the Municipal Corporation. A property tax which responds to true property values, will not only be more equitable but will also generate significant amount of resources required for maintenance and development of city services.

The State Government is quite aware of the problems. Some proposals of amendment to the Rent Control Act to provide (i) for new and re-constructed properties to be free from rent control; (ii) for rents on other existing properties to be adjusted so as to provide a fair rate of return to landlords; and (iii) to amend the Bombay Municipal Corporation Act in order to fix the rateable value for property tax on the basis of actual annual consideration paid by the occupiers, are under consideration of the Government.

5.4 Information Support.—The importance of 'Information' in planning has been well recognised. At National level Central Statistical Organisation, National Sample Survey Organisation and State Directorate of Economics and Statistics at state level operate many relevant data collection systems. Information from these systems is not, however, available for urban development planning in an effective manner. A few of the suggestions to strengthen the information system are as under.

The census data regarding population and its socio-economic characteristics is fundamental to any planning exercise. Even though the basic format of Census data collection is comprehensive enough, results of all the surveys conducted are not printed and made universally available, e.g. the migration data, data regarding nine-fold categories of workers etc. of 1981 census are not yet available. Secondly some reforms in census frame too are necessary. While deciding the spatial frame in terms of census blocks, care should be taken to see that the block boundaries do not cut heterogeneous community groups, e.g. a block containing major slum population should not include adjoining affluent areas. Data at such disaggregated levels should be readily made available to planning agencies. During the 1981 census in addition to usual demographic schedules, the economic census of all the non-residential premises has been carried out by canvassing additional schedules, which gives valuable data regarding type of activity, number of workers etc. The results are not universally available. For physical planners, apart from the aggregated data of manufactured items and number of workers employed, value

added etc. data regarding physical location of economic activities is of vital importance. Arrangements to make available such data at disaggregated level be therefore made.

Apart from the above, the Central Statistical Organisation in collaboration with the State Bureau of Economics and Statistics carries out Annual Survey of Industries. The results of such surveys take a long time to materialise. Often by the time the data is available it loses relevance. It is necessary to evolve some mechanism so that these results are available in good time.

Environment Department has taken some steps to continuously monitor the air and water pollution. However the main emphasis has been on regulatory action. In order to ensure that environmental considerations become an input to planning process network of environmental monitoring stations need to be set up urgently.

SUMMARY OF RECOMMENDATIONS AND THE ACTIONS UNDER-WAY

6.1. *Balanced Urban Development*

6.1.1 Conscious efforts to remove inter-regional disparities of economic development would in the long run result in a balanced urban development. There should, however, be deliberate policy intervention by way of providing basic infrastructure of railways, roads, irrigation etc. In under-developed regions of the State for their economic upliftment.

6.1.2 While attempting to propagate balanced functional hierarchy of urban settlements by way of direct investment, growth potential of the cities rather than their size be the criterion for their selection.

6.2. *Local Level Problems*

6.2.1 Historically evolved city structure proves to be a severe constraint in provision of infrastructure services in resource-efficient way. Re-orientation of the growth of such cities from mono-centric pattern to poly-centric one may be attempted.

6.2.2 Revitalizing the city economy, by adopting proper policy of re-cycling older and obsolete economic activities is necessary. This would enable replacement of out-dated obsolete activities with more appropriate ones. This would need some reforms in fiscal and regulatory measures.

6.2.3 Cities of regional or national importance deserve differential treatment in allocation of funds in Union/State Budgets.

6.3. *Land Management*

6.3.1 System of Bulk acquisition, Development and Disposal has been followed with good results for New Towns in the State. It also has ensured more weightage to the urban poor in housing.

Town Planning Schemes too has been an effective way, which need be tried in a big way. This system however needs some modifications to cut down procedural delays, ensuring recovery of full cost of infrastructure and meeting the needs of the economically weaker sections.

6.3.2 Innovative ideas like "exchange of FSI in lieu of land surrendered for road widening" be evolved reduce financial burden on local authorities.

6.3.3 Government has recently introduced a new scheme under section 20 of the Urban Land Ceiling and Regulation Act to step up supply of low cost dwelling units and serviced land.

6.4. *Shelter Policy*

6.4.1 The strategy includes to promote creation of sufficient housing stock for incremental population, to conserve existing housing stock and as a transient measure, to carry out environmental improvement of existing slums.

6.4.2 The public housing agencies are reorienting their programmes by giving more emphasis on supply of serviced land.

6.4.3 In order to step up private sector investment, Government is also taking steps for establishment of State Housing Finance Corporation, and is reviewing the Rent Control Act.

6.4.4 In Environmental Upgradation Schemes conferring of tenural rights to stimulate user participation is being ensured. Current thinking is also to integrate the scheme with education, health, nutrition and other supportive sectoral programmes, to ensure a wholesome life.

6.4.5 Development Control Rules and Planning Standards are also being relaxed in case of EWS housing schemes undertaken by public agencies. This will make the schemes economically viable and also ensure effective use of scarce urban land.

6.4.6 Government of India may consider allowing environmental improvement schemes in slums developed on its lands.

6.4.7 Normal ceiling of expenditure per household at Rs. 250 may be increased in case of slums which have come up in difficult terrains, viz. marshy lands, hill slopes etc.

6.4.8 The municipal bodies need change their outlook towards the slum-dwellers by treating the sanitization programmes as part of their regular development programmes, regular maintenance of service infrastructure in slums and levy of and recovery of appropriate user charges.

6.5. *Water Supply and Sanitation*

6.5.1 The municipal bodies are hardly in a position to mobilize enough financial resources for capital investment. It is, therefore, necessary to establish Urban Infrastructure Bank contemplated by the Government of India.

6.6. Transport

6.6.1 The strategy need aim at giving high priority to mass transportation and pedestrian movement. In case of large cities, Railways' input by way of allocation of adequate resources for suburban railway system is crucial. The Planning Commission and the Railways need find substantial funds for the purpose.

6.7. Finance for Urban Development

6.7.1 By and large the level of financial resources mobilised by the municipal corporations/councils cannot be stretched any further. They need assistance in terms of soft and long-term finances for capital investment in infrastructure projects.

6.7.2 Urban development sector should get its due share in the financial allocations of the State and National Plans. The needs of various sectoral agencies working in the urban development field be considered in a comprehensive way with due regard to the intersectoral linkages. Metropolitan sub-plans be prepared to form a part of National/State Five-Year Plans.

6.7.3 Urban Infrastructure Banks be set-up to ensure adequate long-term lending institutional finance.

6.7.4. Appropriate fiscal measures such as levy of user charges be used for avoiding wasteful use of scarce resources—be that water or road in the central city.

6.7.5 Rent Control Act and relevant Acts are being reviewed to provide for more realistic base for levying of property tax.

6.8 Other Suggestions/Actions under-way

6.8.1 State Government is contemplating establishing an Institute of Urban Affairs which would carry out research as well as impart training to lower and middle level executives in municipal administration and other related fields of Urban Development. Some IIM may also consider starting new curriculum in the field of City Management. In our view, it would be helpful if such State Institutes of Urban Development are set up in all the States of the Country. For this purpose the Central Government could provide required capital grants for creation of the institutes and other sizable recurring revenue grants to cover the recurring expenditure for their running and maintenance.

6.8.2 Census data-frame needs alterations to project more meaningful socio-economic data at micro level. Results of all the basic surveys carried out during census, as also those of economic census, be made readily available. Results of Annual Survey of Industries too, be made available in proper time.

6.8.3 Proper frame-work of monitoring stations, laboratories be established to constantly assess the environmental conditions in terms of levels of atmospheric pollution in the cities.

PART II

MATERIAL ON HOUSING POLICY

HOUSING AND SPECIAL ASSISTANCE DEPARTMENT

GOVERNMENT OF MAHARASHTRA

REVIEW OF THE ON-GOING PROGRAMMES

Before formulating housing programme, it would first be necessary to undertake an in-depth review of the housing programme implemented so far in the State. Some of the points worth noting in this context are :—

- (1) Bulk of the plan investment has gone towards construction of formal housing from Government and semi-Government agencies; but majority of the output has been contributed by the cooperatives and private sector. The Housing Board and MHADA together have been responsible for only about 1.5 lakh tenements over the last 35 years, with an average of 5000 per year as against annual requirement of more than 60,000 dwelling units. The other public sector agency is the CIDCO for New Bombay, Nanded, Nashik and Aurangabad.

- (2) Bulk of the housing constructed even by formal agencies, has gone towards middle and higher income groups, either by direct allotment or by subsequent purchase. The poor have largely been left to their own devices for acquiring a house, or have been obliged to live in slums.

- (3) There is no long-term perspective for housing and urban infrastructure for the State as a whole. Housing plan has been treated as a series of schemes for various income categories to be executed with the help of nominal plan provisions and institutional finance, and hence, annual budget degenerates into an engineering exercise. There is no clear idea about the extent to which the efforts of the public sector agencies have contributed to meet the housing shortage in various urban areas,

- (4) The housing and urban development plan has not been related to the overall projection of urbanisation in the State, implications of regional development, investments in various industrial areas and growth centres, investments in hinterland of major towns, etc. Activities of the various agencies impinging on the housing sector such as Industries Department, Local Bodies, Planning Authorities, Infrastructure Agencies and MHADA operate in relative isolation from each other and the State's total Development Plan does not bring together their investments and programmes.
- (5) Housing plan is also not related to the playing capacity of the beneficiaries in various income groups and there has been no deliberate attempt to relate the cost of dwellings to their affordability. This is further related to the failure to associate people's voluntary agencies and the private sector with the public housing programme.
- (6) Slum Improvement Programme has been regarded as a purely temporary solution and attempts to sanitize existing environment of the slum-dwellers. It is not regarded as a part of the larger problem of housing for the poor, as well as the phenomenon of migration to the cities. A permanent solution based on security of tenure and assistance of house construction by the occupant is only now under formulation.

CONSTRAINTS AND THE EFFORTS

Based on secondary studies made by MHADA, the total housing shortage is estimated at 2.18 lakh units, of which 43,000 would be for replacing existing stock. The total requirement of housing has to be categorised into three elements viz. existing backlog, requirement of additional population and replacement demand for obsolescent houses. The approximate requirement of dwelling units for the 7th Plan is estimated to be 8.75 lakh dwelling units. It is estimated that during the 7th Plan, public sector agencies, including MHADA, CIDCO and local-level agencies will be in a position to construct about 3.5 lakh units, while private sector and co-operatives are expected to contribute rest of the requirement. This would still leave the housing shortage the same as it was in 1981. The achievement of the target envisaged for the public sector would itself call for dealing with a number of constraints, such as—

- (1) Availability of land and removal of constraints on use of existing land, availability of water supply, sewerage, roads, electricity and other urban infrastructure;
- (2) Availability of finance from various institutions and Government;

- (3) Availability of building materials in adequate measure;
- (4) Co-operation from various concerned agencies in charge of infrastructure as well as help from local bodies in building permission and other support;
- (5) Organisational capacity of the public agencies in taking up planning and execution of housing programmes, and the willingness of local agencies to take over maintenance of these assets;
- (6) Change in orientation of public agencies for involving community at all levels of the programme and for helping beneficiaries to have access to loans, materials, technical assistance etc. for construction and repairs.

It is necessary to prepare an overall housing perspective of at least ten years to tackle housing shortage on the basis of secondary data, revealed preference of the people, projected rates of urbanisation in different cities, major investments to be made by Central and State agencies, industrial location policies, etc. It should be realised again that it is not possible for Government to intervene directly in respect of all urban areas and public sector intervention has to be restricted to certain priority centres, identified on the basis of criteria like rate of urban growth, revealed demand for housing on-going and proposed industrial activity, plan investments, availability of infrastructure, capacity of public agencies and local bodies, etc. A joint exercise has been carried out to identify 10 growth centres for public sector housing activity on the basis of certain ranking criteria followed by MHADA and State Planning Department. This has been incorporated also in the project document for the Maharashtra Urban Development Project (MUDP). While the public sector would primarily operate in respect of growth centres, dovetailing investments of housing agencies, agencies responsible for investment in infrastructure, local bodies; urban local bodies in other areas should be encouraged to take up housing for different income groups, especially poor sections. They should be provided with help in the form of land acquisition, technical expertise for preparing housing schemes, access to finance and support at the State-level by way of guarantees for loans, planning expertise and strengthening of local capabilities. This entire exercise can be monitored through Divisional Commissioner's Committees set up under the chairmanship of the Divisional Commissioners as part of the IYSH Programme.

The total housing programme for the 7th Plan is estimated to be of the order of Rs. 214 crores for MHADA and equivalent amount for CIDCO. A major portion of investment is expected to be generated from financial institutions, beneficiary contributions and internal resources. Apart from this, an investment of Rs. 280 crores would be made under Bombay Urban Development Project (BUDP) in the Bombay Metropolitan Region. It is hoped that by the end of the

7th Five-Year Plan, the second BUDP and first MUDP for other major cities can be started.

SLUM IMPROVEMENT

As regards Slum Improvement, it is estimated that the total slum population is of the order of 65 lakhs in different major cities. It is estimated that about 38 lakhs population has been covered till the end of the 6th Plan, leaving about 27 lakhs yet to be covered. In order to cover the remaining population at a cost of Rs. 300 *per capita* expenditure will be of the order of Rs. 71 crores. As against this, a provision of only Rs. 30 crores has been made during the 7th Plan and this will cover only 35 per cent of the remaining slum population by the end of the 7th Plan period. The scheme is co-ordinated by the MHADA at the State level and executed primarily by the local bodies. Taking into account the recommendations made by the Task Force on Shelter the State Government is reorienting the Slum Improvement Programme in a variety of ways. In respect of slums on which there are no major reservations and which have come upto 1980, it is proposed to give tenure to the slum co-operatives and Home Improvement Loans. One lakh slum families will be covered under BUDP and a significant number in other major cities during this Plan period. In respect of slums, which are required to be shifted on account of public works, Slum Relocation Schemes are planned by the provision of developed sites. A major Slum Relocation Project of 5,000 families has been completed in Pune. Similar schemes are planned for about 15,000 families in Bombay. Plots or dwelling units are offered on hire-purchase basis with subsidy from Slum Improvement Programme. In respect of slums regarding which tenure cannot be given on account of current policy, environmental improvement is done as per approved norms. So far it has been possible to cover only 50 cities and it has not been possible to extend the programme to cities having a population less than 50,000 owing to shortage of funds. A number of problems has been faced in the execution of the programme, including—

- (a) Non-availability of space for construction of latrines and other public utilities.
- (b) Difficulty in enjoyment of amenities by slum-dwellers as off-site infrastructure is not extended upto slum by local bodies.
- (c) Difficulty in the provision of street-lights owing to local problems and inadequate provision of funds.
- (d) Difficulty in improving private slums due to the legal difficulties.
- (e) Difficulty in upgrading slums which are situated on hilltops and other difficult areas.
- (f) Progressive deterioration of services owing to poor maintenance by local bodies due to shortage of funds and non-collection

of service charges. It is necessary to revise *per capita* norm for Slum Improvement and also revise present basis for providing amenities by including certain portion of off-site infrastructure and also recovering maintenance cost to some extent. It is necessary to combine provision of amenities and grant of tenure as much as possible and also build in an element of cost recovery.

The programme should be implemented on the basis of a long-term Master Plan for upgrading slums and provision of low income housing in each city. Setting up of Peoples Participation in Shelter Cells in major Corporations with the help of Plan grants is expected to contribute to some extent in greater involvement of local bodies and community in implementing the programme during 7th Plan period. Simultaneously, it is necessary to make efforts to reduce further growth of slums by various long-term measures related to growth of cities and migration.

URBAN LAND POLICY AND INCENTIVE FOR PRIVATE CONSTRUCTION—ROLE OF PUBLIC SECTOR

The nexus between the land policy and the access of the poor to adequate shelter need to be appreciated. The Government of India has suggested a series of measures in the field of urban land policy for adoption by the State Government and these have been endorsed by the Council of State Housing Ministers in early 1983. In pursuit of this, the State Government should make available sufficient lands under UL (C & R) Act or other lands of the Revenue Department to the MHADA for execution of housing schemes. At the same time, genuine co-operatives of the lower income categories should be encouraged by the allotment of land as per existing policy at concessional rates in different urban areas. In addition, MHADA and CIDCO should be encouraged to acquire lands in terms of their existing land acquisition procedures. The local bodies should be encouraged to take up Sites and Services Schemes in respect of lands available with them or allotted to them, with technical assistance from MHADA and access to institutional finance. At the same time, the public agencies and Revenue Department should be obliged to take a complete inventory of all the available vacant lands and prepare a time-bound plan for the utilisation of these lands, prevent encroachment or inappropriate utilisation. Existing building regulations and planning standards need to be suitable-reoriented in order to promote efficient land use and low income housing and also in order to reduce the cost of the utility network. In view of its inclusion in the 20-Point Programme, a systematic study of urban land prices prevalent in urban areas should be undertaken with the help of Town and Country Planning Organisation and a system of land price publication should be established by the Directorate of Statistics. This would help to estimate the extent of unwarranted increase in the price of urban land and built-up area and help to device suitable measuring for arresting the increase. Ultimately, of

course, the only answer to the reduction of land price is to increase the supply of developed house sites through the efforts of public agencies and co-operatives as well as by the provisions of urban infrastructure and to encourage construction on these sites by providing access to credit and materials.

A related point in this context is the extent of incentives to be provided to the private sector for housing. The Working Group set up by the Ministry of Works and Housing in 1981 has made a number of recommendations, which have been endorsed by the Council of State Housing Ministers. These relate to—

- (a) Fiscal concessions to individuals, co-operatives and builders;
- (b) Concession for mobilisation of household savings for agencies concerned with housing finance;
- (c) Tax benefits for construction of residential houses;
- (d) Certain legal steps like the amendment of the Rent Control Act, Urban Ceiling Legislation, liberalisation of building regulations and planning standards. In order to promote private housing activity take certain penal steps like higher taxation of vacant land and tax on speculative profits;
- (e) Allotment of land at concessional rates to Co-operatives and arranging for supply of finance and materials to the Co-operatives.
- (f) Arrange for adequate supply of building materials like cement, steel, bricks, etc. and provision of material stores for assisting low-income housing construction.
- (g) Encouragement to voluntary agencies involved in housing and slum up-gradation for the low income communities on the pattern of Hyderabad.

As emphasised in the Sixth Plan document and in other Working Group Study by the Government of India, public housing agencies should concentrate largely on the provision of developed sites with preponderant proportion of the sites going to the poorer sections. Government should provide funds mainly for schemes of land acquisition and development and provision of external and internal infrastructure and regard itself a facilitator of housing activity, rather than a builder. Simultaneously, the allottees should be provided with access to credit materials and technical assistance in order to activate their dormant savings. Local bodies should be encouraged to assist these housing efforts. In this way, even the existing investments can result in substantially larger output of dwelling units, given liberalised planning standards and regulations, reduction of excessive social facility standards, flexible designs and layouts, promotion of higher density, relaxation of Rent Control Legislation, support to local housing finance institutions, encouragement of voluntary agencies, etc.

REPAIR AND RECONSTRUCTION PROGRAMME

It is not sufficiently recognised that the repair and renewal of existing housing stock and environment is as much an element in housing as new housing. According to studies undertaken by the HUDCO, the average cost of repair to rehabilitate 1 sq. m. of built-up area, is less than that of new construction. The cost per household shelter is also less in the case of repair than new construction.

A major scheme of Repair and Reconstruction of about 20,000 old and dilapidated buildings in the Bombay island is in progress since 1969. A special fund has been built out of cessed contributions from landlords and tenants, statutory contributions from Government and Municipal Corporation and other budgetary support. Annually, over Rs. 25 crores are at present being spent on structural repairs of buildings, reconstruction of buildings beyond economic repairs and construction of transit tenements. While it has been possible to repair over 8,000 buildings so far, the pace of reconstruction has necessarily been slow on account of problems of land acquisition, shortage of resources, problem of transit tenements and the limited organisational capacity of the MHADA. It is estimated that it will cost over Rs. 2,000 crores to reconstruct all the cessed buildings and further Rs. 500 crores to construct adequate number of transit tenements during reconstruction.

Recognising the magnitude of the problem, Government has enacted a legislation to permit acquisition of the cessed buildings and transfer of ownership to the tenant co-operatives and further helping them to take up Repair/Reconstruction with institutional finance. Certain portion of the Prime Minister's grants is being utilised for this programme, as well as loan assistance to the tenants. HUDCO has been asked to revise its guidelines for supporting Repair and Reconstruction Programme. The scope of the scheme has now been broadened to take up Urban Renewal Programme in selected neighbourhoods to take into account Repair and Reconstruction and Upgradation of Services. Government has also relaxed DC Rules and also enhanced FSI for the purpose of accommodating all the original inhabitants of the cessed building. A major problem faced in construction of additional transit tenements is to find adequate surplus land at reasonable distance from the Bombay island.

The programme can be expanded to other major cities also. Finance has to be provided for repairs at local level.

SOME SUGGESTIONS

Besides the Sites and Services Programme, the public agencies should also make a vigorous attempt to reduce the cost of housing and build low-cost dwellings for EWS. This calls for innovative building techniques to reduce use of scarce materials and maximum use of locally available materials, particularly in the case of Rural Housing. It also requires

revision of the standards and specifications relating to land use, floor space, quality of finish, utilities, durability of materials etc. Urban local bodies have a big role to play in enabling construction of low-cost housing by public agencies and the private sector.

In terms of specific support from the Government of India, the following actions are needed :—

- (1) Fiscal and monetary incentives for stimulating private housing activity on the lines suggested in the Mukherjee Committee Report as well as report of the National Institute of Public Finance.
- (2) Larger inflow of institutional finance for housing from LIC, GIC, UTI and Commercial Banks and requiring these institutions to adopt income and cost ceilings similar to HUDCO.
- (3) Suitable modification in the Urban Land (Ceiling and Regulation) Act, after evaluating experience of Maharashtra and other States, in order to enable utilisation of all the vacant lands.
- (4) Early action to set up a National Housing Bank and start similar shelter finance insti-

tutions at State level, larger inflow of funds from financial market as well as international agencies for housing.

- (5) Early approval to the Maharashtra Urban Development Project for extending to all the major cities of Maharashtra, the Sites and Service and Slum Upgradation Programme of Greater Bombay.
- (6) Greater dissemination of information relating to various techniques of construction of housing, layout of neighbourhoods, use of materials, systems of financing, management of services etc. and support for upgrading capability of personnel of housing and municipal agencies.
- (7) Revision of the present guidelines for Slum Improvement Programme at the Central level to keep it on the lines of the Slum Upgradation Scheme followed in Bombay and Madras.
- (8) Systematic effort to implement recommendations of the Task Force on Shelter set up by the Planning Commission in 1983.

PART III

NOTE ON RESOURCE NEEDS OF THE BOMBAY METROPOLITAN REGION

RESOURCE NEEDS OF BOMBAY

1. *Bombay in National Economy*

Bombay is undoubtedly one of the world cities today. This position is attained on account of its diversified economic base : industries, financial institutions, port, public and corporate sector headquarters, and the like. The position and importance of Bombay in the national perspective cannot be overstated. The Region accounts for 9.17 per cent of the total manufacturing employment and 24 per cent of the total value added from manufacturing of the country during 1980. Bombay port handles over 30 per cent of country's port traffic, and its airport handles 58 per cent of international traffic.

The pre-eminence of Bombay in the national economy has also reflected in the phenomenal growth of population of Bombay. Bombay, which was a city of 2.9 million in 1951, has now crossed 8.2 million, and continues to grow at a rate of about 4 per cent per annum. It is estimated that the population of Bombay Metropolitan Region, which was 11 million in 1981, would grow to 19.8 million by 2001. This implies an addition of about 3.5 lakh persons per year. Out of this, nearly 50 per cent is due to net immigration. Further, out of total immigrants, those from the States other than Maharashtra account for nearly 58 per cent. It includes about 15 per cent

from Gujarat, 13.5 per cent from Uttar Pradesh and 17 per cent from Southern States.

2. *Planning for Infrastructure*

Planning and provision of infrastructure for such population growth (the annual addition itself is bigger than the total population of many cities) is a very resource intensive task. The planning strategy in BMR painstakingly endeavours to seek cost-minimising solutions to problems of infrastructure provision. Despite these efforts, it is experienced that it is extremely difficult to generate resources necessary for the provision of infrastructure to sustain the economic growth by the local authorities or by the State Government. In this context, Bombay's problems deserve special attention of the Government of India.

3. *Planning Strategy*

Historically, the centre of development in Bombay has been at the southern tip of Bombay island. Continued concentration of employment at this location and extended growth of suburbs, has now reached a stage where sustaining the expected growth along the same spatial pattern would require extensive investment in infrastructure such as underground railways, elevated road network, and long distance conveyance of water. The State Government and the

BMRDA have therefore decided to reorient the growth from a mono-centric pattern of development to a poly-nucleated pattern of growth. Studies indicate that the latter can significantly economise on provision of basic infrastructure without hampering the growth momentum of Bombay's economy. This planning strategy is embodied in the statutory Regional Plan prepared under the Maharashtra Regional and Town Planning Act, 1966. Development of new growth centres such as New Bombay, Bandra-Kurla Commercial Complex, and Kalyan Complex, is being vigorously promoted. However to promote such a pattern of development, it is necessary to create certain key infrastructure to accelerate growth of such new centres.

4. Sectoral Resource Requirements

Given the magnitude of growth in Bombay Metropolitan Region, resource requirements in key sectors for the 7th Plan period and for the period thereafter till 2001 have been estimated by BMRDA. These estimates are given in Table No. 1.

TABLE NO. 1

SECTORWISE ESTIMATED PUBLIC INVESTMENT FOR THE PERIOD UPTO 2001 IN BOMBAY METROPOLITAN REGION

(Rs. in crores)			
Sector	Investment for 1985-86 to 1989-90 i.e. 7th Plan	Investment for 1990-91 to 2000-2001	Total Investment
1	2	3	4
1. Shelter and Associated Urban Development—			
(a) Housing	353	1632	1985
(b) Slum Upgradation	148	116	264
(c) Urban Renewal	125	1675	1800
(d) Off-site infrastructure and social facilities	156	428	584
Sub-Total	782	3851	4633
2. Transport—			
(a) Roads and Bridges	418	611	1029
(b) Passenger Road Transport	58	90	148
(c) Railways	295	727	1022
(d) Inland Water Transport	50	40	90
(e) Port Development	563	Nil	563
(f) Air Transport	90	N.A.	90
Sub-Total	1474	1468	2942

1	2	3	4
3. Telecommunications	1472	9528	11,000
4. Water Supply and Environmental Sanitation—			
(a) Water Supply and Sewerage	1185	1291	2476
(b) Solid Waste Management and Environmental Protection	73	229	302
Sub-Total	1158	1520	2778
5. Growth Centres	59	10	69
Total	5045	16,377	21,422

These resource requirements amounting to Rs. 21,422 crores for 2001 when compared with the overall availability of resources make the case for Central assistance obvious. For instance, as against the required investment of Rs. 5045 crores for the 7th Plan period, the State's entire 7th Plan allocation is Rs. 10,500 crores. Some of the key projects and their resource requirements are given below :

4.1 *Transport.—Road Network :* The State Public Works Department after carrying out comprehensive transportation studies for Bombay Metropolitan Region has identified four important road development projects. They are briefly described below along with their resource requirements :—

- (i) *East Island Freeway.*—The eastern road-corridor of Bombay carries heavy goods traffic originating in the Port. It is necessary to augment the capacity of this corridor in various phases from 1987 to 2001. The total cost of East Island Freeway has been estimated to be around Rs. 250 crores.
- (ii) *Second Thane Creek Bridge.*—The capacity of existing 4-lane Thane Creek Bridge which is 30,000 pcu/day, needs to be urgently augmented as the traffic along this alignment in year 2001 is expected to be 1,17,800 pcu/day. The cost of this new bridge is estimated to be around Rs. 40 crores.
- (iii) *West Island Freeway.*—The existing western corridor in the island city of Bombay is over loaded, and does not have much spare capacity to cope with the increase in traffic over next 1½ decade. It is, therefore, necessary to build new West Island Freeway connecting Nariman Point, Hajiali, Bandra and Kalanagar. The total cost of the new West Island Freeway at the level of 1985 prices is Rs. 206 crores. The important component of the West Island Freeway is the bridge from Worli to Bandra. The cost of Worli to Kalanagar Section including the construction of the bridge, is about Rs. 82 crores.

- (iv) *Bombay Mainland Link Bridge.*—In addition to the existing road connection between Bombay and New Bombay, according to the study carried out by CRRI and a High Power Steering Group appointed under the chairmanship of Shri J. R. D. Tata a trans-harbour link connecting Bombay and New Bombay between Sewri and Nhava is considered necessary. The total cost of this project has been estimated to be Rs. 510 crores.
- (v) *Rail Transport.*—Suburban rail transport in Bombay plays an important role as about 80 per cent of passenger-trips in Bombay are carried by public transport systems. With the growth and expansion of development in the Bombay Metropolitan Region, certain key projects which improve the efficiency and expand the network of suburban railways, have become essential. These are listed below :—

TABLE NO. 2

(Rs. in crores)

<i>I. East-West Corridor</i>	
(1) Mankhurd-Belapur line	150
(2) Bandra-Kurla link	95
(3) Belapur-Panvel line	65
<i>II. Sixth Corridor</i>	
(1) Bandra-Andheri additional pair of lines .	63
(2) Remaining portion of Sixth corridor .	314
<i>III. Optimisation of suburban Services . . .</i>	250
<i>IV. Electrification of Diva Panvel . . .</i>	6
<i>V. Railway lines in New Bombay . . .</i>	
(1) Upgradation of Kalwa-Turbhe-Belapur line	40
(2) Belapur-Uran line	45
TOTAL	1,028

- (vi) *Inland Water Transport.*—Though Bombay has been bestowed with a long coast-line water transport is not currently being used either for passenger or goods traffic. It is proposed to harness this resource for movement of goods and passengers more efficiently. Construction of a jetty at Vashi including terminal facilities for passengers and the requisite fleet for passengers water transport across the harbour, is expected to cost around Rs. 50 crores during the 7th Plan.

4.2 *Telecommunications.*—Efficient telecommunication has a very important role to play, particularly in the context of the planning strategy which aims at decentralisation of trade, offices, and other tertiary activities. A considerable amount of investment is necessary to improve the telecommunication facilities in

Bombay in general, and also for providing efficient linkages between Bombay and New Bombay. The long-term resource requirements in this sector are estimated to be Rs. 11,000 crores.

4.3. *Other Sectors.*—In other sectors viz. shelter, growth centres, water supply, etc. State Government and local authorities are making significant efforts at increased investment through IDA assisted projects. However, due to current formula of on-lending the IDA credit to State Government, only 35 per cent of the project cost is received as IDA credit (that too not on the soft terms). As 65 per cent of the project investment has to be largely mobilised by the State Government and the local authorities, it puts limitations on the scale of investments. In sectors which are traditionally considered responsibility of State and Local Governments such as shelter, water supply and sanitation, road transport, etc. there is a need to have a scheme of Central assistance, particularly when a city like Bombay performs many functions which transcend its geographic boundary.

5. Priority

The resource needs of the Bombay Metropolitan Region estimated to be Rs. 21,422 crores are indeed of a tall order. Although for some sectors, especially Telecommunications, it may be possible to generate a large part of the resources from the open market, for others the resources will have to come mainly from the Five-Year Plans. It is, however, acknowledged that in view of the overall resource constraints in our economy it is unlikely that the resources of such magnitude would be forthcoming in the near future. It is therefore necessary to identify key investment projects and assign priorities. Following are some of the projects that deserve high priority :—

- (1) East-West Rail Corridor—first phase—Bandra-Kurla link,
- (2) Optimisation/Sixth Corridor/North-South Corridor in New Bombay,
- (3) East and West Island Freeways,
- (4) Telecommunication in New Bombay,
- (5) Water Source Development.

It is hoped that the Commission will appreciate the importance and urgency of the investments indicated above for sustaining economic vitality of this great city. The Commission is requested to recommend to Government of India allocation of adequate resources for the development of Bombay Metropolitan Region.

MANIPUR

COMPREHENSIVE MEMORANDUM ON URBANISATION IN MANIPUR

INTRODUCTION

1. Manipur is a hill girt state situated in the North Eastern Boarder of India. The state covers an area of 22,356 sq. kms. (about half of the Haryana State) and encircled by high hill ranges with a small valley in the centre. Physiographically the state can be divided into two distinct zones (1) Valley region with 3 districts (2) Hill region with 5 districts. The valley spreading over an area of 1843 sq. kms. is situated at an attitude of 788 mtrs. above M.S.L. and the hill areas at the varying height of 1000—3000 mtrs. above M.S.L. Politically the state is divided into 8 administrative districts and 28 sub-divisions.

2. There is no water and railway transport system to link the state with other states of India. There is daily air service between Imphal and Calcutta via Silchar & Imphal and Delhi via Gauhati, Bagdogra and Patna. The National Highway No. 39 and No. 53 connect the state with the rest of the country. The road transport is the only linkage for the state. The average length of roads is only about 21 kms. per 100 sq. kms. of area as against on all India average of 55 kms.

3. The per capita consumption of power is only 12.40 Kwh. (1981-82) against all India average of 135 Kwh. (1980-81). Out of the 2035 villages in the state only 516 have been electrified so far. And the use of power for industrial purposes is marginal. Now with the commissioning of Loktak Hydro Electric Power (105 Megwatt) and completion of the distribution system the condition of the power supply may be improved.

4. In so far as urban water supply is concerned the major problem continued to be in respect of supplying drinking water to Imphal City. Even though a number of schemes have been taken up, the present capacity is only of the order of 7.2 million gallons per day against the requirement of 11.7 million gallons per day. At present other 31 towns are covered at the rural standard. Augmentation works are therefore necessary for water supply at the urban standard upgrading from 10 gphd. to 20/25 gphd. during the 7th Plan period. In so far as rural water supply is concerned, the state had 1280 problem villages. By the end of the Sixth Plan period it is expected to cover 845 villages. The Seventh Plan has to provide all the

remaining problem villages with water supply facilities.

5. The Imphal Valley is flooded frequently by the over flow of the river flowing from the surrounding hills of Manipur. Even the slight spell of monsoon rain causes flood to the Imphal town in particular and valley in general since there is no proper drainage system. The state has two main basins viz, the Barak river basin and Manipur River basin. The major rivers in the Manipur valley traverses from north to south through the valley and drain into Burma. The major rivers are (1) Imphal, (2) Iril, (3) Nambul, (4) Nambol, (5) Heirok, (6) Sekmai, (7) Thoubal, (8) Khuga, (9) Merakhong, (10) Wangjing and (11) Kongba.

6. These rivers during their courses through the valley causes flood during rainy seasons and damages large properties and standing crops. These flood problems are controlled mostly by construction of river embankments, improvement of embankment and drainage channels, construction of sluices and bank protection works etc. subsequent to the devastating flood in 1966. During the 7th Plan period a total of Rs. 27.30 crores has been proposed for strengthening and construction of 200 kms. of embankment, 250 kms. of drainage and 500 kms. of bank protection mainly in three valley districts of Imphal, Thoubal, and Bishnupur.

7. Regarding the urban drainage scheme, it is proposed to take up surface drainage in Imphal area as well in the other small towns. Master Plan for Imphal area is in the finalisation stage. Similarly drainage Master Plan for other towns are to be prepared and take up phasewise during the 7th Plan period 'Top Priority' is being given to the on going scheme of Imphal namely, the Naga Nallah drainage and Imphal bazar area. Further, areas like Babupara, Jail, Old Lambulane and New Secretariat areas by remodelling and improving the existing drainage scheme. Further, Lamphelpat township, which was developed on the low lying area needs pumping arrangement and has been included in the priority list.

8. There is no proper sewerage and sanitation in Imphal and other urban areas of Manipur. As per decade programme (1981-1991) it was proposed to provide sanitary facilities to 80% of the urban population and 25% of rural population by March 1991.

Imphal city is to be provided 100% coverage by sewerage system along with the treatment plant during the Seventh Plan. It is proposed to adopt low cost sanitation scheme of water seal pour flush latrines with provision of septic tanks first and gradually convert them into sewerage system. For other 31 towns also it is proposed to cover by low cost sanitation scheme to a population of 2 lakhs (60%). Regarding rural sanitation, it is proposed to cover about 3.13 lakhs of rural population (25%) by low cost sanitation in the Decade Programme.

9. The state has sizeable percentage of the population living below the poverty line. Considering a daily minimum per capita calorie intake of 2,400 in rural areas and 2,100 population and 59% of the urban population were living below the poverty line in 1980-81. Compared with the all India average, the per capita income of Manipur is apparently low. In 1982-83 the per capita income of Manipur is Rs. 1,365/- as against the all India average of Rs. 1,890/- at current price. The corresponding figure at 1970-71 price were Rs. 544/- of Manipur as against 712/- of All India respectively.

10. The Net State Domestic Product (NSDP) of the state reveals that the economy of Manipur is agrarian in character. In 1981 census, agriculture accounted for 67% of the total workers. In terms of income generation too, the primary sector accounts for a sizeable part, about 55% of the total NSDP. The contribution of large scale manufacturing industry is till date, negligible. The percentage contribution of primary, secondary and tertiary sectors of economy to total NSDP are indicated below :—

Year	P. C. Contribution of		
	Primary	Secondary	Tertiary
1960-61	55.68	10.32	34.00
1965-66	50.23	10.35	39.37
1973-74	52.73	10.50	36.77
1977-78	55.15	9.43	35.42

DEMOGRAPHIC PATTERN

11. The total population of Manipur in 1981 is 14.21 lakhs persons in 32 towns and 2035 villages. Two third of this total population reside in the Manipur Central Valley having an area of only 1843 sq. kms. The projected population of Manipur in 1986 and 1991 are 16.37 lakh and 18.87 lakh respectively. The projected population of Manipur upto 1991 is given below as Table I.

TABLE I
PROJECTED POPULATION OF MANIPUR FROM 1971
TO 1991 AS ON 1ST MARCH AND 1ST OCTOBER

Year	Population (In lakhs) as on	
	1st March	1st October
1971.	10.70	10.88
1976.	12.33	12.54
1981.	14.21	14.45
1986.	16.37	16.65
1991.	18.87	19.18

Source : Directorate of Economics Statistics Department.

12. Majority of the people are Manipuri Hindus known as Meiteis while the hill areas are inhabited by as many as 29 tribes which may be broadly divided into two groups as Nagas and Kukies. Out of the State's total population of 14.21 about 10.45 lakhs persons consisting 73.56% are in Urban areas as against 23.73% of all India level. Distribution of rural and urban population in Manipur State during 1981 is given at the following table :—

TABLE II				
Area in sq. Kms.	Population in lakhs	P. C. to total population	P. C. growth rate during 1971-81	
Manipur . 22,204.50	Rural- 10.45	73.56%	11.48%	
State . 151.50	Urban -3.75	26.44%	163.77%	
TOTAL . 22,356	14.20	100.00	32.46%	

SEX RATIO & LITERACY RATE

13. In 1971 the average sex ratio in eight towns of Manipur is 984 females per every 1000 males. Nambol and Thoubal towns have high sex ratio of 1063 and 1032 females per 1000 males respectively. But in hill towns like Sonapati, Churachandpur and Tamenglong the sex ratio are 804, 829 and 863 females per thousands males respectively. In 1981 the literacy rate of Manipur is 41.52 percent and the literacy rate of urban areas of Manipur is 51.08 percent. The literacy rate in hill towns of Manipur are still higher. In hill towns like Ukhrul, Churachandpur and Tamenglong the literacy rate are 65.72%, 57.39% and 48.75% respectively.

URBANISATION IN MANIPUR

14. After industrialisation rapid urbanisation becomes the major phenomena in most of the countries of the world. Due to pull factor of the city in term of employment, educational, medical and other facilities, people are migrating from rural areas to the urban

areas and from small towns to bigger cities. The town in turn can not provide sufficient facilities and service to the influx population. The situation is not the exception in the context of Manipur also. Imphal is the capital city of Manipur and being the seat of administration from the ancient time attracts people from all parts of the State and India.

TREND OF URBANISATION

15. The trend of urbanisation in Manipur is not so regular due to change of urban areas. In 1961 there was only one town, Imphal in the whole of Manipur with 67,717 persons in an area of 17.48 sq. kms. In 1971 census the urban population has increased to 1,41,492 in eight towns with a area of 36.73 sq. kms. constituting 13.25% of the State's total population as against 19.87% of all India level. During 1981, urban population of Manipur rose to 3,75,215 persons in 35 towns forming 26.4% of the total State's population as against all India's 23.73%. The decadal growth rate during 1971-81 is 163.77% which is rather high.

TABLE 3

Year	Total Urban area in sq. kms.	Total Urban Population in(000)	P.C. of Urban open to population	P. C. variation of urban population
1941 . . .	19.52	99.70	19.47	(+) 12.67
1951 . . .	3.20	2.80	0.50	(-) 4845.00*
1961 . . .	17.48	67.70	6.81	(+) 3145.00**
1971 . . .	36.73	141.73	13.25	(+) 108.95
1981 . . .	151.50	375.46	26.44	(+) 163.77

(approx.)

*Due to reduction of urban area.

**Due to extension of more urban areas.

IMPORTANT TREND & WORKING FORCE

16. Most of the towns of Manipur are predominantly industry-cum-service towns where government service is the main source of employment. Some towns are agriculture towns engaging majority surface working population in primary sector. Women are mostly engaged in household industry mainly handloom. Majority of the people migrating from rural areas and from small towns are job for government service.

17. During 1981, the percentage of workers to total population of Manipur is 41.68%. And in the urban areas the percentage of workers is 33.36% of the total urban population. The participation rate of urban areas of the hill districts are fairly high where more than 50% of the total urban population are in working group. One particular thing is that female participation rate is very high in hill towns of Manipur where more than 60% of the workers are female who are mostly engaged in Agricultural pursuits and household industry.

18. The major problem of the state is that of the unemployment. It is indeed considered the root cause of the problem of poverty. As a matter of fact, the number of persons on the live register of the employment exchanges has been growing up rapidly. The unemployed number which was 77,705 only in 1978-79 rose to 1,88,676 in 1984-85. About half of the registrants rose under matrices and the rest were matriculates and above. Unemployment specially among the educated is therefore mounting. In the present economic scenario of the state, there is little or no scope for generation of large scale employment opportunities in industrial field. The state government has therefore stressed the need to give greater emphasis on self employment schemes. The nos. of unemployed persons on the live register as on 1985 is given below :—

TABLE 4

Year	Nos. of Registrants in the live Register	Nos. of candidates placed to employment
1978-79	77,705	543
1979-80	19,130	695
1980-81	1,15,546	703
1981-82	1,36,464	1478
1982-83	1,53,691	955
1983-84	1,76,931	644
1984-85	1,88,679	N.A.

Source : Directorate of Employment Exchange.

19. In urban areas government service is the main source of employment in Manipur. In 1982 the total employee of Manipur Government was 43,881. The trend of employment in different offices of Manipur government is given below :—

TABLE 5

TREND OF EMPLOYMENT IN MANIPUR GOVT. OFFICES

Year	Nos. of Government Employees
1966	17,554
1968	19,042
1970	20,506
1972	21,038
1974	22,976
1976	23,991
1980	36,723
1982	43,881

HOUSING/SHELTER

20. During the census 1971 there were a total number of 2,15,818 census houses in Manipur. Out of this 78.88% were residential houses, and the remaining are used for other uses. Out of the usual houses

1,89,468 houses were in rural area and 26,350 houses were in urban area. In 1981 the number of houses increased to 303,015 houses, out of this 228,265 houses are in rural areas and 74,750 houses are in urban area. Out of the total houses 70.80% are residential houses, remaining houses are used for other uses.

21. The state has since been making continuous efforts to provide better housing condition to the people. The programme under housing are being implemented by Local Self Government Department, Public Works Department, and State Finance Deptt. The Local Self Government concerns with Low Income Group Housing and Social Housing for Economically Weaker Section; the Public Works Department with rental housing; and the state Finance Department with service loan/advance to State Government employees.

22. The Public Works Department has been implementing rental housing scheme, concerning mainly for construction of residential quarters for employees at the state Capital District Head Quarter and sub-divisional Head Quarters. At the end of the Sixth Plan in 1984-85, it is anticipated that the state will have 1309 residential quarters against the target of 1511 quarters. The Seventh Plan envisages to construct 1124 residential quarters in Imphal and District/Sub-Divisional Head Quarter, so that the state may have 2433 residential quarters by 1989-1990.

23. The House building advance to the government employees is a scheme to enable government employee to built their houses with the financial help of the government. The amount of the loan/advance will be recovered from the pay of the employees by monthly instalments. During the 7th Plan period it is proposed to cover 100 beneficiaries.

24. The programme for construction of residential accommodation for Police personnel were included under the plan of Manipur. The programme includes construction of 135 quarters and one single man barrack of 40 men capacity. During the 7th Plan period it is proposed for establishment of a planning and monitoring cell for effective implementation of 1006 quarters and 2416 single men barracks.

25. Under the point 10 of Prime Minister's 20 Point Programme this State is taking up construction of houses for Homeless and Economically Weaker Section and Low Income Group. Practically there are very few homeless person in urban areas of Manipur as they had managed themselves somehow or rather. Unlike other cities of India there is no Jhoggi Jhoppri type of land-less and homeless persons in any urban area of Manipur. Under the Urban Social Housing Scheme a total amount of Rs. 1.68 crores was spent by State Government during 6th Plan period for giving loan to private individuals for construction of 1185 houses under L.I.G. and 150 houses under E.W.S. Housing Scheme. Another provision of Rs. 1.40 crores has also been approved by the State Planning Department for implementation of Urban Housing Scheme during the 7th Plan period. A total nos. of 760 houses under L.I.G. and 800 houses under E.W.S. are proposed to be constructed during the 7th Plan period.

SLUM IMPROVEMENT

26. Under Part 10 of the Prime Minister's 20 Point Programme this state is taking up Environmental Improvement of Urban Slum of Manipur. Actually there is no slum and squatter areas as such in urban areas of Manipur. However, tribal habitat areas where sub-standard environment exists, were identified as slum areas for upliftment of their environment. During the Sixth Plan period 6 Tribal Habitat Pockets i.e. (1) Major Khul, (2) Kakhulong, (3) Pandol, (4) Muchilkhul, (5) Keisamthong and (6) Deulaland were taken up for the benefit of 5746 persons. During the 7th Plan Period it is proposed to cover a slum population of 9577 persons living slum areas of Imphal, Bishnupur, Nambol and Thoubal Towns.

INTERNATIONAL YEAR OF SHELTER FOR HOMELESS : (IYSH)

27. This scheme is a new one introduced in the state during during the 7th Five Year Plan period. The scheme aims at providing housing facilities to the homeless person in the state specially in the district H.Q. towns. The snap survey for all districts H.Q. for identification of target groups has been completed and action is being taken up to formulate the design and estimates of the low cost houses to be constructed for those shelterless families under the scheme. But much progress could not be achieved due to lack of Co-ordination among government departments.

ASTHETIC & CULTURAL ASPECTS

28. Manipur has its own traditional house type and planned locality layout with proper orientation. These houses are constructed with locally available materials like boulders, wood, bamboo, thatch & straw etc. But few of them have been replaced by R.C.C. construction with the arrival of modern building materials. Yet it is proposed to retain shape and design of the conical & slope roof in order to retain traditional unity of expression of the city as a whole.

LEGAL & PHYSICAL ASPECTS

29. The Manipur Town & Country Planning Act 1975 and the Manipur Town & Country Planning Rules 1976 are the comprehensive Planning Act operated in Manipur State. Besides this the Manipur Land Revenue & Land Reforms Act 1961, the Urban Land Ceiling Act, Manipur Municipalities Act 1976 and the Manipur Highways Act 1979 etc. are incorporated in planning proposals, planning implementation and urban administration. Regarding the development control in urban areas, the Master Plan Zoning Regulation, Imphal Municipality Building Bye-Law 1969 etc. are in operation.

URBAN PROBLEMS & STRATEGY

30. Though the towns of Manipur quality from the angle of urban population but the level of urban infrastructure and facilities available are very low and lagged, behind the level of the other towns of India. Only the urban population of Imphal City being capital city of the State is provided with better facilities

and amenities. But the urban population of other towns are provided with poor educational, medical facilities inadequate water and power supply, poor drainage system and deficiency in housing etc.

31. So the valley region especially Imphal City because of its geographical advantage and better facilities & amenities attracts people from all parts of Manipur such turbulent influx of migration leads to the haphazard growth of Imphal City which is now developing as primate city.

32. In order to channelise check the haphazard and unbalanced growth of the towns and to prepare Master Plans for guiding the growth a Town Planning Cell was established in the latter part of 3rd Five Year Plan period. For the purpose the Manipur Town and Country Planning Act 1975 was introduced in 1976. According to the State urbanisation Policy/Strategy it was taken up to prepare Master Plans for Imphal Capital City, then District Headquarter towns and Municipal towns where urban problems are accute. In order to counteract the rapid rural-urban migration to valley region specially in Imphal city, Small & Medium Towns are proposed to develop with better facilities & amenities.

PREPARATION OF MASTER PLAN

33. In pursuance of the Manipur Town & Country Planning Act 1975 preparation of Master Plan for Greater Imphal was completed in 1976 and is now in the implementation stage. Under the Manipur Town & Country Planning Act 1975, the Manipur Planning and Development Authority was constituted to implement the Master Plan proposals. Besides the Master Plan for Greater Imphal, Master Plan for District H.Q. towns of (1) Chandel, (2) Tamenglong, (3) Churachandpur, (4) Ukhrul, (5) Bishnupur and Municipal towns of (6) Kakching and (7) Nambol towns have been prepared and they are now in the different process of getting approval and publication in the government gazette.

PLAN IMPLEMENTATION

INTEGRATED DEVELOPMENT FOR SMALL & MEDIUM TOWNS

34. Most of the Master Plans prepared during 5th and Five Year Plan period remain practically in implemented. In order to implement some of the Master Plans Integrated Development Schemes for Small and Medium size towns were taken up under Centrally Sponsored Scheme. Earlier under this scheme Government of India agreed to cover one town i.e. Chandel only which was dropped later on. But on request of the State Government, the Central Government agreed to cover two towns of kakching and Jiribam on the condition sharing the Central Assistance of Rs. 40.00 lakhs by the two towns. However recently Central Government has increased the additional share of to Rs. 40.00 lakhs for each town. Accordingly State Government had prepared revised Project Reports for these two towns. The programme components are (a) Acquisition and development of land for housing colony (b) construction of internal road to sub-serve

the housing colony and other schemes and constructions of Bus terminal (c) Development of markets/mandis.

35. The implementing agency is Manipur Planning & Development Authority in Co-ordination with P.W.D., Electricity & P.H.E. Department. But due to lack and co-ordination at the local and state level and delay in procedure of land acquisition etc. some of the schemes can not be implemented in time.

PROBLEMS/DIFFICULTIES OF PLAN IMPLEMENTATION

36. Urban Development plans/schemes are prepared by the State Town Planning Department and the approved Master Plan/Development Plans are implemented by Planning & Development Authority, P.W.D. and P.H.E.D. The Housing Programmes are implemented by P.D.A., P.W.D. and State Finance Department.

37. The Town Planning Department is taking up works/schemes of slum improvement of 20 Point Programme for Deulahland and Integrated Development for Small & Medium Towns Projects (IDSMT) for Kakching & Jiribam towns under the Centrally Sponsored Scheme. Out of these two schemes the slum improvement scheme is executed by the Public Health Engineering Department whereas the works under IDSMT are executed by the Manipur Planning & Development Authority.

38. The difficulties faced by the Department regarding the implementation of slum improvement under 20 Point Programme are shortage of fund and execution of the works by different Departments on deposit works thereby resulting lack of coordination and slow progress of the works. The original amount for slum improvement of Deulahland cannot meet the all the components of the scheme. Hence a revised estimate of Rs. 2.50 lakhs was submitted for Technical sanction and administral approval by the P.H.E.D., Manipur.

39. Regarding the IDSMT Projects, delay in getting technical appraisal; administrative approval of the centre and lack of co-ordination among the implementing agencies are some of the major problems for slow progress of the Project. Previously the two towns of Kakching and Jiribam were sharing the single project cost of Rs. 40.00 lakhs only. Now on request of the State Government the Ministry of Urban Development has agreed to enhance the Central Assistance to Rs. 40.00 lakh each. Accordingly the Revised Project Reports for these two towns have been submitted to the Ministry of Urban Development vide Government letter No. 9/1/81-LSG(UD) dated 7th May 1986.

40. Regarding development of Housing colony and commercial complex, the Planning & Development Authority is facing problem due to shortage of fund and lack of expertise hand since the Authority is in the infant stage. Other problems are non-availability of scheme site due to encroachment at the scheme site etc. The proposed Housing Colony of Lamphel opposite to the Lamphelpat Commercial complex could not be taken up due to non-availability of the site as the area was occupied by encroachers.

MEGHALAYA

NOTE FOR NATIONAL COMMISSION ON URBANISATION

1. *Urbanisation profile in Meghalaya*

In the State of Meghalaya, the pattern of urbanisation has been unique. With 18% of the total population of the State being urbanites, and with the existence of seven urban areas, only one viz., Shillong Agglomeration has emerged as a Class I city with a population of 1,73,064 persons, while the others have remained between Class III and Class VI towns with population ranging from 3,876 in Nongstoin to 35,131 in Tura as per the 1981 Census yet, an analysis of the Census data reveals the rapid pace at which the smaller towns are growing in relation to Shillong Urban area. The pattern clearly indicates the wide variation of urban population distribution in the State and their highly ununiform growth. Of the seven towns five are District Headquarters while the other two are Sub-Divisional towns.

Although the growth of urban population has been quite fast in Meghalaya, an increase of about 62.74% during 1971-81, yet, the other attendant problems of urbanisation have still remained in an embryonic form and have not shown their ugly heads as acutely as they have in some other states with metropolitan cities. It has now become necessary to give sufficient thought to the problem and make adequate investment so that the problem could be checked right at this stage. Already, increasing movement of people and growth of the urban centres in the State, has led to an overburdening of urban services and facilities, shortage of housing stock, high demand for urban buildable land and skyrocketing of urban land prices etc.

Absence of proper planning legislation, building bye-laws and a general absence of the perception of the emerging urbanisation pattern in the State has resulted in haphazard growth, mushrooming of structures and desecrating of the urban landscape and the environmental conditions. Moreover, in the absence of adequate investments on urban development programmes, the urban facilities and services have also tended to suffer.

Considering the above problems, it is being felt that the following steps need to be taken immediately :—

- (a) Need to give priority in the form of investments for urban development in the Five Year Plans of the State.

- (b) Need to set up a cell, of any institute concerned with urban development, in the region —

- (i) to analyse the urban growth pattern in the State; and
- (ii) to evolve urban policies unique to the State or the region.

- (c) Need for special fund assistance for urban development schemes in the State.

- (d) Need to extend Centrally Sponsored Scheme like Integrated Development of Small and Medium Towns to cover more number of smaller towns and considering the peculiar situation that exists in the State, in the form of non-feasibility of remunerative schemes, loans extended by the Government of India needs to be converted into grants.

- (e) Need for setting up Development Authorities for Co-ordinating all development works in the urban areas of the State.

- (f) Need for establishing a common forum for formulating urban planning strategies and regulating development works in inter-State problem areas or region.

2. *The agencies working for urbanisation programmes in the State*

In the State, the schemes or programmes for Urban development are taken up by the concerned departments of the Government like the Public Works Department, Public Health Engineering Department, Town and Country Planning Department etc.

3. *Whether on-going programmes fit in with the States Perception of Urbanisation*

Of late, urban development programmes in the State are being undertaken after consideration of future needs/demands etc., yet, the programmes tend to suffer during implementation. Apart from the above, programmes also suffer due to the absence of co-ordination among the various Departments concerned with urban development and as such programmes are identified implemented without an overall perspective of urbanisation.

4. *Problems of metropolitan cities, small and medium towns and growth centres with special form on new towns.*

In the State, there are seven urban areas of which Shillong exists as the only Class I Town with a

population of 1,73,064 persons as per the 1981 census, apart from Shillong, there are three Class VI Town and one each of Class V, IV and III town. The towns of Meghalaya along with their status and size are indicated below.

Sl. No.	Town/City	Class	Population	Remarks
1.	Shillong	I	1,73,064	Consisting of the Shillong Municipality, Cantonment and the townships of Nongthymmai, Mawlai, Pynthor-Umkhrah and Madanrtng.
2.	Tura	III	35,131	
3.	Jowai	IV	12,900	
4.	Cherra	V	6,104	Identified as per 1981 census
5.	Williamnagar	VI	4,290	Do.
6.	Baghmara	VI	4,128	Do.
7.	Nongstoin	VI	3,876	Do.

Source : Census of India, 1981 (Provisional)

THE FOLLOWING TABLE INDICATE THE DECADAL GROWTH OF TOWNS IN MEGHALAYA

DECADAL GROTH OF TOWNS IN MEGHALAYA

Particulars	1971	1981	Growth rate
1	2	3	4
1. Shillong Municipality	87,659	1,07,673	+22.83
2. Shillong Cantonment	4,730	6,653	+40.66
3. Madanrtng		6,160	—
4. Mawlai	14,260	20,280	+42.22
5. Nongthymmai	16,103	21,563	+33.91
6. Pynthor Umkhrah	—	10,735	—
Shillong Agglomeration (1—6)	1,22,752	1,73,064	+40.99
7. Sohra		6,104	—
8. Nongstoin	—	3,876	—
9. Jowai	8,929	12,908	+44.56
10. Tura	15,489	35,131	+126.81
11. Baghmara	—	4,128	—
12. Williamnagar	—	4,290	—
Total	1,47,170	2,39,501	+62.74

*Provisional

Source : Census of India, 1971. 1981 General Population Tables, Meghalaya.

INDICATED BELOW IS THE URBAN POPULATION BY CLASS OF TOWNS IN MEGHALAYA
URBAN POPULATION BY CLASS OF TOWNS 1981*

Class	No. of Towns	Male	Female	Total	Growth (1971-81) Percent	Sex ratio F/1000 M
1	2	3	4	5	6	7
Class I	1-UA	90,978	82,086	1,73,064	+40.99	902
Class II	—	—	—	—	—	—
Class III	1	18,648	16,483	35,131	+126.81	884
Class IV	1	6,479	6,429	12,908	+44.56	992
Class V	1	3,071	3,033	6,104	—	988
Class VI	3	6,709	5,585	12,294	—	832
All classes	7	1,25,885	1,13,616	2,39,501	+62.74	903

* Provisional

Source : Census of India, 1981.

The Shillong urban area has been one of the oldest, largest and fastest growing hill areas in the Country. Initially developed to sustain a few thousand population, Shillong has grown to nearly two lakhs of people today. Characterised by a decadal urban growth of about 40.99% in the standard urban Area, Shillong has acted as a State Capital, a District Headquarter as well as a centre of Regional importance. Even today, numerous regional institutions have their headquarters in Shillong and although the above organisations have been expanding over the last few years, there has been no attempt to effectively decentralise them away from the town and as a consequence has led to the emergence of numerous problems. Apart from the administrative function, Shillong has also acted as a Regional commercial centre and a gateway of commercial products for the remote and for lying states of North Eastern India.

Shillong urban Area is not only fast growing but it has already grown in its magnitude and size which invites the immediate attention of planners. The growth of the area has not been uniform in all directions. Being a regional centre and in the absence of well defined frameworks for physical development and inadequate investments on development works, the area has grown in a haphazard way, resulting in congestion, over crowding, over burdened utilities and services and such other related problems.

Tura and Jowai the Class III and IV towns have also shown a high decadal growth rate of 126.81% and 44.56% respectively and have been facing problems similar to Shillong. Apart from the above, as per 1981 census four more towns have been identified of which one is a Class V and the other three Class VI Towns.

Although the above are comparatively newer and smaller towns yet they exhibit all the potentials of emerging as any of the large, problem towns of the Country.

5. Role of Local Bodies in Urbanisation.

In the State, there are three urban local bodies namely, Shillong Municipality, Tura Municipality and Jowai Town Committee. The functions of the above bodies are to promote the proper development of the urban centres and to provide and maintain civic amenities in such areas.

Some of the problems faced by the above bodies are as follows :—

- (i) Shortage of technical manpower;
- (ii) Shortage of funds;
- (iii) Maintenance of, over-burdened services.

6. The problems thrown up by the multiplicity of agencies in urban areas and solution thereof.

In the State of Meghalaya, urban development schemes are taken up and executed by various Government agencies and local bodies. In the absence of any co-ordinating agency, there are overlapping and complicity of functions as a result of which schemes lack an urban perspective and tend to suffer. There is a need, therefore, for setting up of an umbrella body which can channelise the development functions of the various agencies whereby arrest further haphazard growth and deterioration of the urban environment. As such, it is felt that there is a need for setting up of an autonomous Development Authority under the overall supervision and control of the State Government which can regulate the growth for orderly development of the urban areas in a planned and co-ordinated manner.

7. Status of preparation of Master Plans for the cities and towns.

The State of Meghalaya has adopted the Assam Town and Country Planning Act, 1959, but being a Sixth Schedule area under the Constitution of India the Act is applicable only in a limited area in the town of Shillong whereas the remaining areas of the State being free of any planning legislation. As such, the Master Plans that have been prepared for some of the towns of Meghalaya have still remained in a draft stage pending either the extension of the Act to larger areas or framing of new legislation suitable for the area.

8. Impact of Urban Ceiling Act on Urbanisation.

The Urban Ceiling Act has not been adopted in the State.

9. Urbanisation prospects in the context of 2001–2025

With increase in activities and movement of people, it is anticipated that the urban areas/towns of Meghalaya will expand very rapidly in the next few decades. Growth is expected both in the larger and smaller towns. The eight Sub-divisional headquarters which are rural at present are likely to become urban centres. That is by 2001 it is expected that the State may have nearly 15–20 urban centres compared to seven. In the above context, it is felt that apart from the short term development schemes which needs to be taken up on a priority basis for the larger towns, long terms measures for decentralisation of activities and people also needs to be examined. It is also felt that additional investment on urban development schemes both of short and long term perspective also needs to be made for the smaller towns which can considerably check the influx to the larger towns, as is taking place now.

MIZORAM

COMPREHENSIVE MEMORANDUM ON URBANIZATION IN MIZORAM

INTRODUCTION

Mizoram, situated in the North Eastern border of the country, attained Union Territory status on January 21, 1972. Prior to this, various schemes of development of other parts of the country have little or no impact in this strategically located area and people remained economically and socially isolated from the rest of the country.

With the elevation of Mizoram to the status of Union territory the Central Government accelerated its policy of bringing in the tribals to the mainstream of National life which gave impetus to all Planning and Development Programmes.

The people inhabiting the state are known as "Mizo Tribe" with the exception of few immigrants. Christianity is the predominant religion.

The State of Mizoram covers an area of 21,081 Sq. Kms. comprising the three districts of Aizawl, Lunglei and Chhimituipui Districts. In 1981, it had a population of 493,757, the density of population being 23 persons per square Kilometre. Literacy rate according to 1981 census is 59.88 as against the previous census record of 53.79.

Topography of the area is characterised by rugged mountainous terrain. A succession of steep hills are intercepted by deep ravines and Nullahs. The Western sides of the hill ranges are usually steep sloped whereas the eastern side slope relatively gentler and that accounts for the maximum number of settlements thereon. The altitude varies from 3000 ft. to nearly 7,162 ft. above Mean Sea Level.

Climatic condition of the area is cool, high relative humidities nearly all the year round and with abundant rainfall. The average rainfall recorded in a particular year in the state capital, i.e. Aizawl is 2263.8 mm and the maximum and minimum temperature at Aizawl recorded are 30.9° and 6.8° respectively. The maximum rainfall being received during May to September

with a heavy down pours with the result that heavy Landslides do occur during those days.

Unfortunately, basic data on natural Vegetations, Soil condition, Geology, Mining, Land use, and various Economic activities like investment inputs, Income and Expenditure pattern etc. are not available.

Road transportation is the only mode of communication presently available in the State since there is no Water and Railway transport System to link the area with other parts of the country. The Existing Communication infrastructure hardly permits smooth trade and Commerce on account of the fact that the roads are full of Stains and Hazards.

1. TREND OF URBANISATION IN MIZORAM

Prior to 1971 Census there was only one Town, i.e. Aizawl in the whole of the then Mizo District with less than thirty thousand persons. The 1971 Census identified one more Town in Mizoram, i.e., Lunglei. Mass migration from rural to Urban areas resulting from the 1966 disturbances is the main factor for the growth of Urban areas in Mizoram.

With the formation of Union territory in Mizoram the two leading Towns and various Administrative Centres of the State experienced a pretty high rate of growth. In subsequent years, due to pull factor that available within Urban areas in terms of Education, Employment and other service facilities, Census figure of 1981, thus, shows a steep rise in the growth of the two Towns of Aizawl and Lunglei and the number of Census Towns of the State increased to six, uptill now, the number of Towns as recorded by the State Government may be as high as ten.

1.1. Distributional Pattern of Urban Centres :—

Distribution of Urban Centres in the three districts of the State is not uniform as can be seen in Table I below one of the reasons behind this unequal distribution of Urban Centres in Mizoram was the fact that

till recently due consideration has not been made by the Government to achieve the goal of balanced Regional Development due to difficulties of communication and remoteness of location.

TABLE-I

Different size classes of Towns as norms and standard as per 7th Five Year Plan 1985-90 Vol-II Planning Commission Govt. of India.

Sl. No.	Classification
1	2
1. Class I	(1 lakh and above population)
2. Class II	(50,000 to 99,999 „)
3. Class III	(20,000 to 49,999 „)
4. Class IV	(10,000 to 19,999 „)
5. Class V	(5,000 to 9,999 „)
6. Class VI	(Less than 5,000 „)

TABLE — 2
DISTRIBUTION OF TOWN IN MIZORAM 1981

Sl. No.	Name of Town	Class	Name of District
1	2	3	4
1.	Aizawl	II	Aizawl District
2.	Lunglei	IV	Lunglei District
3.	Saiha	V	Chhimitupui District
4.	Champhai	V	Aizawl District
5.	Serchhip	V	Aizawl District
6.	Kolosib	V	Aizawl District

Source : Census of India, 1981, Series—31, Mizoram

1.2. Demographic trends of Urbanisation

Mizoram showed a very fast rate of growth of urban population during the last three decades. The 1951 census indicated that the then Mizo District had an Urban population of merely 6,950. Its urban population had grown to 14,257 by 1961 which accounts for 5.3 per cent of the total population. The increase in the percentage of urban population to the total population during the following two decades i.e. 1971 and 1981 are respectively 11.3 and 24.6. Nearly 62 percent of the total urban Population in the State of Mizoram was covered by Aizawl town alone in 1981. Table 2 below shows the trends of urban population in Mizoram since 1951.

TABLE — 3

TRENDS OF URBAN POPULATION IN MIZORAM

1	2	3	4	5	6
Year	No. of Town	Total Population	No. of urban popln.	%decade Variation	%of urban popln. to total popln.
1951	1	158787	6,950		
1961	1	266063	14,257	105.1	5.3
1971	2	332390	37,759	164.8	11.3
1981	6	493700	1,21,814	222.6	24.6

Source : Census of India, 1951, 1961, 1971, 1981, Mizoram Government continuing expansion trends in Population, the state is anticipated to have an urban population of 2,39,900 in 1991 and 4,09,200 by 2001 as is shown in the following table 3.

TABLE — 4

PROJEDTED URBAN POPULATION IN MIZORAM UPTO 2001

Year	Urban Population	P.C. to total Population
1	2	3
1981.	1,21,814	24.6
1986*.	1,75,400	29.20
1991*.	2,39,900	33.73
1996*.	3,18,300	38.26
2001*.	4,09,200	42.79

*Office of the Registrar General of India—Report of the Expert Committee on population Projection.

TABLE — 5

INFLUENCE OF URBANISATION TO RURAL POPULATION IN MIZORAM SINCE 1951 TO 1981 WITH PROJECTED RURAL POPULATION UPTO 2001

Year	Rural Population	P. C. to total Population
1	2	3
1951 .	151837	96 %
1961 .	251807	95 %
1971 .	299631	87.19 %
1981 .	371900	75.33 %
1986*.	425300	70.80 %
1991*.	471300	66.72 %
1996*.	513700	61.21 %
2001*.	547000	57.21 %

*Office of the Registrar General of India.—Report of the expert Committee an population projection.

1. 3(a) Occupational Structure & Trend of Working Force.

The state of Mizoram is characterised by its Predominant nature of Agricultural Economy. However, the present practice of jhuming is primitive, uneconomic, and base with certain disadvantages. As a result, percentage of workers engaged in jhum cultivation decreased from 83.90 percent in 1971 to 73.11 percent in 1981. Meanwhile, percentage of workers under service sector has been increasing substantially. Most of the towns in Mizoram are agriculture towns engaging majority of the working population in Primary sector. Some major towns have so far developed mainly as an administrative and service centres where government service is the main source of Employment due to the absence of any planned programmes for

diversification and intensification of Economic activities. Following table 4 indicates trend of urban working force under various Economic activities.

TABLE — 6

TREND OF P. C. OF URBAN WORKERS TO THE TOTAL URBAN WORKING POPULATION

	1971	1981
Cultivators	46.69	25.81
Agricultural Labourers	1.86	9.88
Industry, Manufacturing, Processing, Servicing and repairs v(a)	2.22	2.48

Other Workers, III, IV, V (b), VI to IX

Source : Census of India, 1971, 1981 Mizoram.

1. 3(b) An appraisal of Employment situation in urban areas of Mizoram.

As stated earlier, government service is the main source of Employment in urban areas of the state.

TABLE 7—HUMAN RESOURCE IN THE STATE OF MIZORAM AS PER THE LIVE—REGISTER MAINTAINED IN THE EMPLOYMENT EXCHANGES UPTO DECEMBER 1986.

S. No.	Specification	Post Graduate	Graduate	PUC	HSLC (Matric)	Ex-TT	Under Matric
1	2	3	4	5	6	7	8
1.	Arts	129	1,130	1,607	7,266	1,697	13,809
2.	Science	9	31				
3.	Commerce	1	15				
4.	Education	1	18				
5.	M.B.A.	1					
6.	Vety		2				
7.	Engineering		16				
8.	Agriculture		4				
9.	Medical		3				
TOTAL		141	1,220	1,607	7,266	1,697	13,809

Source : Director, Labour & Employment Department, Mizoram, Aizawl.

2. ECONOMIC DEVELOPMENT OF MIZORAM

As stated earlier, Mizoram is characterised by the predominant nature of agricultural economy and almost 70% of the total population is depending on Agriculture. However, the number of workers engaged in jhum cultivation has been decreasing fast due to certain dis-advantages of jhuming method of cultivation. Meanwhile percentage of workers under tertiary section increases substantially.

The entire state of Mizoram is a notified backward area under the definition of "No Industry District." The type of Industries which have been set up under small scale and tiny sector are found operating almost in all parts of Mizoram. A bit of sophisticated Industries like manufacturing of Electrical Cables and Conductors, Timber seasoning Plants, T.V. assembly units are coming up. Size of most of the industries are small and most of the investments are within the limit of 10 lakhs. Due to weak infrastructural development like transport network, Power, Sater,

Availability of manpower in sectors like Medicine, Education, Industry, Agriculture, Power & Electricity etc. has increased remarkably during the last decade. However, there is acute shortage of manpower in core-sectors involving high-technology due, mainly to lack of infrastructure and adequate training facilities.

It has been observed that the available skilled human resources are not properly utilised since there is no intake avenues of these resources in Private sector undertaking of any worth has been set up so far.

Labour force of the state is only nominal due to sparse population. The available labour force engaged in road and construction works is mostly of inter-state migrant labour. Agriculture being the mainstay of the local population its share of labour force is generally seasonal lasting for about four to five months a year.

Technical Manpower communication etc. no medium or large scale industry could be set up so far. Thus emphasis is laid mainly on the development of small scale, tiny, village and Cottage Industries at the level of Private Entrepreneurs.

Industries requiring power are mainly located in urban areas. The main Industrial growth Centres are Aizawl, Kolasib, Champhai, Lunglei and Saiha. Steps have been taken to avail the incentive offered by the Government of India for the development of infrastructure in the state. The state Government has already earmarked areas for development of Industries in Aizawl, Sairang, Golasib, Lunglei, Champhai etc.

3. EXISTING URBAN COMMUNITY FACILITIES

3.1 Educational facilities & Infrastructure

Detailed analysis of the growth of Education and its infrastructure in urban areas of the state has not yet

been done. However, the growth of Education and its infrastructure in relation with the growth of urbanisation is highly satisfactory.

An assessment of Existing Infrastructural facilities in the two major Towns of Aizawl and Lunglei is illustrated in the following table 6—

TABLE 8—EDUCATIONAL INSTITUTION IN AIZAWL & LINGLEI TOWNS 1985-86

	No. of Institution	Enrolment	Teacher-Pupil Ratio
	1	2	3
Primary School	Aizawl	103	13,530
	Lunglei.	33	3,495
Middle School	Aizawl	21	2,874
	Lunglei.	18	1,792
High School	Aizawl	4	5,316
	Lunglei	7	1,190
University	Aizawl	1	14
			1—1 (due to swichover of Degree Course by 3 yrs. no new enrolment during 1985-86)
Polytechnic Institute	Lunglei	1	187
B.Ed. College	Aizawl	1	100
			1—10

Sources—Under Secretary to the Government of Mizoram, Education Department, Aizawl.

Policies and Programmes currently adopted by the state Government for meeting the Educational needs in Urban areas are—

- Extension of Existing Educational Institutions to accommodate the growing demands for admission.
- As the influx rate to the urban areas is rather high Government has also adopted a policy and programme of opening more Educational Institutions at all levels at different localities except technical and Training Institutes.
- Rather ambitious policies and programmes for initiating allied wings such as Sports Councils, Arts and Culture, Physical Education etc. are being undertaken.
- Infrastructural facilities like construction of playgrounds, Indoor Stadium etc. are being prepared for proper development of Sports and Games.

Lack of adequate space, shortage of finance and availability of trained manpower are the main constraints in the implementation of the policies, A national Policy of Education 1986 which is already accepted by Government of India, has been taken as the Projected scenerio of the State's Education system for the year 2001, 2025.

3.2 Health and Medical Facilities

The general overview on the health and medical facilities in the urban areas of the state can be generalised as under—

Education Department, Aizawl.

No. of Hospitals	9
No. of Dispensary	Nil
No. of Health Centres	46 (Main & Sub-Centre)
No. of Doctors	73
No. of Technical Personnel	292
Incident of Disease	64737 Cases from 1st January to June 1986
Incident of Accident	576—
Incident of Malaria	8556 from Jan-June, 1986
Incident of T. B.	1.5 per Thousand
Death Rate	10 per 1000 persons per year.
Death Rate.	35 per 1000 persons per year.
Infant mortality	80 per 1000 Live Birth
Bed-Population Ratio	1 : 6000
Bed : Doctor Ratio	20 : 1
Specialisation	Gynaecologist, Surgery Medicine Paediatric, Ophthalmology, Orthopaedic.
Indigeneous System of Health Care	One ISM & H clinic is functioning and attached to Civil Hospital, Aizawl (Homoeopathy) and Ayurvedic) only.

Location of Major Hospitals/Health care Centres	Aizawl, Lunglei, Champhai, Saiha, Tlabung, Kolasib and Serchhip
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In Mizoram, various health Programmes have been formulate in every Annual Plan with a view to achieve the global target of Health for all by 2000 AD which includes establishment of PHC to remote areas and sending medicine to all medical Centres. Effort is also being made to improve the existing infrastructural facilities.

The main problems on financial, manpower and infrastructural are mainly due to inadequacy of fund, lack of technical manpower and bad communication etc.

3.3 Post and Telegraph

There is only one telegraph Office in the state capital i.e. Aizawl and half a dozen of Post Offices are scattered in the District headquarters which are more or less adequate as far as the present demand is concerned. A number of sub-post Offices are located in various town of the state.

One telephone Exchange Centre is located in Aizawl town which is far from satisfactory. Provision of two or three more telephone exchanges in the major towns of the state is necessary to meet the ever-increasing demand.

3.4 Recreational Facilities

Almost all the urban Centres of the state are deficient in recreational facilities due, mainly, to non-availability of suitable sites. For instance, not a single organised park has been constructed in the whole of the state. There is no maintain open space in the urban Centres. However, there are a few patches of open spaces, sometimes used as play lots.

The Existing Small number of Playgrounds are too small in size to meet even the present demand. The available social and cultural institutions are inadequate. Due consideration, therefore, should be given to the special distribution of these activities in the urban areas.

4. UTILITIES AND SERVICES

4.1 Water Supply

Water supply in urban Centres of the state is a serious problem though the area receives heavy participation. Present supply in most of the towns are mosily by gravity system after taping the water from the stream or rivers. Shortage of Electric power supply hindrances effective water supply in the whole state. Radial system of water supply is also popular in some parts of the state. In dry season, almost all of the towns are provided with Truck loads of water from nearby streams and rivers.

4.2 Power Supply

Power supply in the State is from the bulk purchase made by the State Government from neighbouring States. Another source of power is from diesel generation and the 1000 kw from Serlui 'A' Micro Hydel Station. Street lightning point or station is located by the Local Administration Department (L.A.D.) but it's management is carried out by the Power and Electricity Department.

Grid supply from 66KV Assam line via Dullavethera is the main source of power in the state. The Diesel stations supply only during peak load hours and when there is grid power failure.

The present power demand in the urban Centres of the state is as follows :

(a) Industrial/Commercial	1780 KW
(b) Domestic	5915 KW
(c) Communication	540 KW
(d) Others	604 KW

As regard to scouting of new sources of energy 2 x 20 KW W.E.C. and solar water heating system at Langlei Civil Hospital, 5000 Lpd Solar water heating system at Saiha etc. are in the stage of completion. Investigation of three Hydel Projects Viz. Tuitlawk, Tuisumpui and Chawnge are at full swing.

At present due to limitations of transformer capacity at Dullavchera, Power supply to Mizoram cannot extent beyond 6 KW and hence power supply is extremely inadequate to all major towns in Mizoram. Construction of 132 KV transmission system is the main energy Programme taken up by the State Government. Further, a number of hydel project are going on in the State.

4.3 Drainage and Sewerage

The rugged terrain and the steep slope gives advantage to follow natural. But unfortunately due to absence of comprehensive Development Plan, not a single towns has proper drainage and Sewerage system. There is no sewerage system for disposal is by independent Setic Tanks for each house.

Storm drainage is mostly through nallahs and gullies along the road towards the hill side. Storm water through these gullies are collected and drained off towards the valley side through crossdrains. Maintenance of these drains is extremely difficult. In most areas of the towns these drains are filled up with mud, soil etc. which prevents the flow of water through them, as a result water flows over the road.

Lack of proper drainage system in urban Centres of the state is the result of complete negligence of systematic physical Development for such urban Centres. Sludge and used water from the houses are not properly drained out and the discharge is thrown towards the following areas immediately near the houses Sometimes the discharge from the individual houses meet fresh water in spring or streams and also contaminates them.

In most of the private residential building units sanitary latrines are not provided and people use pit latrines constructed outside the main houses. Maintenance of such latrines is very poor. Provision of community Septic Tanks in commercial and other public places is necessary in order to improve the environmental condition of the towns.

4.4 Waste Disposal

Garbage is collected from the individual houses and from the dustbins constructed in the Market Centres.

The State's Local Administration Department is responsible for collection and disposal of garbage. In most of the towns the regular collecting units are inadequate in number. Disposal of garbage is done by means of Trucks to the dumping ground beyond the town limit.

In most of the towns Butchery and Slaughtering of animals are done in the premises of the main market deteriorating the environment of the towns.

5. TRAFFIC & TRANSPORTATION

The Road system Prevailing in the urban centres of the state is extremely inadequate to the present kind and intensity of traffic. There is mixed traffic of vehicles and pedestrians in the town roads. Roads also serve a dual purpose of access to abutting building and as thoroughfares, parking of vehicles loading and unloading operations along the Kerbs. Moreover, various types of encroachments on the roads, inadequate enforcement of traffic control further reduces the road spaces and obstructs the smooth flow of traffic.

The average width of major town roads is 6 to 8 metres but due to heavy pedestrian flow and kerb parking only two third of the road width can be actually used for movement of traffic. Minor roads are the access roads within the housing areas, they are single lane roads with an average road width of 5 metre. Roads have developed to connect different areas of urban activities without giving any consideration to the hierarchy of roads resulting abrupt changes in road width, acute curves and blind turning are frequently met while negotiating the town roads. An organised parking areas is seldom found in the urban centres of the state.

Mizoram state transport Buses and same Private Buses are plying both intra and inter-cities. Besides, Taxi service have been introduced in the loading town. Trucks, Jeeps and cars are other means of transportation in urban areas of Mizoram.

Further development of roads and linking them with National Highways and rail roads have been the main policy of the State Public Works Department. Moreover, development of the existing airfield located near Aizawl Town for landing bigger transport aircrafts is the ensuing programme of the state government.

6. HOUSING

Till recently housing in Mizoram had never been a serious problem so long as it could provide all the three fundamental necessities namely food, cloth and shelter. Mizos were traditionally equipped to prepare shelters for their own use using indigenous raw materials.

At the end of 60s Aizawl and some other urban centres experienced a heavy influx of population due to the 1966 disturbance inducing a huge demand for housing. Since then the problem of housing has been continued unabated. However, neither clear-cut policy nor serious efforts has been made to improve the lot. The state government is contemplating to formulate housing policy and the first step taken has been legislation of the Mizoram (Housing

& Development) Act where under a statutory Board will be established.

Presently, two types of government Housing Schemes are operating in the state namely—(a) Government Housing under various departments of the State Government, and (b) Housing loans (LIGH & MIGH) and House Building Advances. In both cases, annual demand and shortfalls are very high. Most of the urban housing units are provided with a very meagre unit of basic amenities.

Scarcity of building material, non-availability of land, scarcity of skilled labour and lack of finance are the main problem faced by the people. The Housing and Development Board is supposed to initiate housing policies and programmes and to devise means of finances from the financial corporation.

7. URBAN LAND MANAGEMENT SYSTEM

7.1 State Ownership of Urban Land

(a) Municipal	Nil
(b) State	State Ownership
(c) Area of Urban Land under illegal occupation	20%

The state Land Revenue & Settlement Department issues Land Settlement Certificate or periodic patta or Land Lease to individual/Collective/Government, Department etc. according to their purposes. Registration was done in all types of land holdings and transfer of land to non-tribals is prohibited.

7.2 Classification of Urban Land

Under land are classified under Agricultural land and non-Agricultural land. There are vast area under Agricultural land within the specified area. This are mainly due to newly extension of Town Area. The Non-Agricultural Lands are house site, Shop site, Stall site and other public and semi-public building sites.

Town lands are classified into 3 to 5 grades and valuations are fixed for each grade. The classification is done mainly on the basis of Existing Communication, market value and other public amenities. No organised open spaces or Green belts have been developed owing to the absence of Physical Development plans for the towns.

7.3 Problems on Urban Land Management

(a) Absence of Town and Country Planning Act and absence of plan for scientific proper land management in Mizoram land use development is the greatest constraint faced by the State Government. In the absence of land use Development Plan land management and house site allotment is being carried out by the Land Revenue and Settlement Department.

(b) Besides, Land Acquisition is done mainly by way of negotiation with the owner of the property. The cost of compensation are always too high as compensation is paid mainly on the basis of negotiation.

(c) Land Acquisition is done by the Deputy Commissioner his District, Land Records is the responsibility of the land Revenue & Settlement Department.

(d) Absence of land ceiling Act in the State is one of the crucial problems faced by the State Government.

(e) No proper Act has been framed in regard to lease holdings and free holdings.

(f) No method has yet been adopted to check increase value of the land.

(g) Absence of suitable land for public and semi-public.

(h) So far, there is no proposal of examination of land needs in the near future for development from the concerned Department.

(i) Expansion of the Towns has been done by the Revenue & Land Records Department without giving due consideration for Systematic Physical Development Planning.

(j) Absence of Appropriate Department i.e. Town and Country Planning Department or Planning and Development Department to prepare Physical land use Development Plan for Urban Centres to guide scientific and Diplomatic Urban Land Management economically.

8. *URBAN PLANNING & ADMINISTRATION SYSTEM IN MIZORAM*

So far, there has been no proper Urban Planning and administration system in Mizoram. Any type of Development is in a piece meal manner and a separate Town and Country Planning Deptt. or Authority or Municipality has never existed.

As a result, the State's local administration, is taking up part of Urban Development Schemes such as construction of retaining wall, Steps, Nallahs, Bridge, Water Points, Town beautification, Slums and Environments, Parks etc. etc. Construction of town roads and its maintenance etc.

And the State capital extension Project is the responsibility of the State's Public Works Department.

Moreover, Revenue & Land Records Department is responsible for allotment of Urban land for various uses, Town Expansion planning and Land Records.

Absence of Town and Country Planning Act for Mizoram, and regulations relating to Town and Country Planning has permitted haphazardous growth of the Towns. For instance the existing land Revenue

& Settlement Act which operates misuse of Urban land relating to Urban Development and controlling are out of date and no urban land can be managed systematically through these Act.

However, the Town and Country Planning Branch under Local Administration and Town Planning Department is initiating systematic and scientific physical Planning Development for Urban Centres in the State. The Mizoram Town and Country Planning Bill, 1986 framed by the Department is about to operate in the State which will take up the pioneering works of proper Urban comprehensive Planning and Development Management to all Urban and Rural Centres in Mizoram.

9. *PROBLEMS OF URBANISATION IN MIZORAM*

Urbanisation problems prevailing in the State of Mizoram can be highlighted as under :—

- (1) Absence of Comprehensive Town and Country Planning Act, Law, Rules and Regulations pertaining to Urban and Rural Planning and Development Management.
- (2) Absence of Physical Development plan for the Town and Rural Centres.
- (3) Haphazardous growth of the towns due to dual functions of various departments.
- (4) Shortage of fund.
- (5) Absence of clear-out distribution of Urban Development Schemes among the various Departments.
- (6) In effective exercise of the existing Rules and Regulations relating to Urban Development.
- (7) Scarcity of suitable land for various uses.
- (8) Absence of Town and Country Planning Department to prepare Land Use Development Plan for Towns and managing Urban Land systematically.

10. *SUGGESTION FOR FUTURE URBAN DEVELOPMENT MANAGEMENT*

Urban Centres are the main focal point where all types of Physical-Socio-Economic Development take place. Therefore, whatever departments may be which spend a fund for Urban Development and implementation Development Plans should be however operated under the Physical Development Plans prepared by the State, Town and Country Planning Department as advised by the State Government under the same Ministry concerned.

NAGALAND

NATIONAL COMMISSION ON URBANISATION TOWN AND COUNTRY PLANNING DEPARTMENT

December 1986.

INTRODUCTION

The State of Nagaland was inaugurated on 1st December 1963 as the Sixteenth State of Indian Union. It lies between 25.6' and 27.4' latitude and between 93.20' longitude. It is bounded by Burma on the East, Assam in the West, Arunachal Pradesh in the North and Manipur in the South. Except for a small stretch of land along the foot-hills adjoining Assam, the whole State is hilly and mountaneous ranging between 900 metres and 3000 metres above sea level. The topography is severe and full of hill ranges which breaks into a wide chaos of spurs and ridges making development more difficult specially construction of roads and their maintenance. It is very typical of the Nagas to build their houses on the hill-tops and at higher elevations. None of the rivers in the State is navigable except a few Kilometers near Assam on the Doyang river. The highest peak in the State is Saramati in Tuensang District which is 3,840m. high.

There are Seven Districts in the State with Kohima as the State Capital. Altogether there are 14th major Tribes having their own culture and costomsy speaking their own dialects yet united into one

brother-hood by the word NAGA. The Nagas have beautiful cultural heritage which is an added asset to tourist attraction. The climate is temperate throughout the year but cold from November to Feb. Nagaland has a healthy climate and rich in flora and founa which the nature has endowed to the people. The annual raifall varies between 200 cms to 250 cms. The State covers an area of 16,579 sq. Kms.

DEMOGRAPHIC PATTERN

According to 1981 Census the total population of Nagaland is 7,74,930. Out of this 84.49 per cent is rural. The percentage of growth of population from 1971 to 1981 is 50% which is the highest in the country. The average density of population is 47 per square kilometer. Workers constitute 45.79 percent of the total population. As per the 1981 Census the literary percentage of the State is 41.99. The tribal population constitute 89% only.

The total urban population is 120,234 which constitute 15.54% of the total population. Nagaland shows a very high urban growth rate of 133.84% which is one of the highest in India.

TABLE-1
DISTRIBUTION OF URLAN POPULATION 1981

Sl. No.	District	Town	Male's	Female's	Total
1	2	3	4	5	6
1.	Kohima	III Kohima	19,772	14,568	34,340
2.	Phek	III Dimapur	20,344	12,534	32,878
3.	Mokokchung	IV Mokokchung	10,031	8,029	18,060
4.	Tuensang	IV Tuensang	7,357	4,843	12,200
5.	Wokha	V Wokha	4,860	3,320	8,180
6.	Mon	V Mon	4,373	2,525	6,898
7.	Zunheboto	V Zunheboto	4,474	3,204	7,678
Total			71,211	49,023	120,234

Source : Statistical Hand Book of Nagaland 1984

The above table does not include Phek District as in 1981 there was not recognised town as per Census definition. It is evident from the above table that the

Urban population is increasing at a high rate. Out of the total urban population 34.5% are fulltime workers and 0.3% are marginal workers. Interestingly 65.2%

are non-workers. This may be due to the reason that in most of the families there is a large number of children and dependants.

Most of the people in the Urban areas are Government employees. This is due to the reason that industrialisation in the State is at the infant stage and the whole State is under-developed.

The most important activity in the State is Agriculture which constitute 12.50% percent of the total working force. The percentage of workers in the tertiary Sector is negligible.

URBAN HOUSING

With the rapid expansion of Government activities the problem of accommodation for Govt. staff has become very acute. In some departments the accommodation satisfaction level is below 10%. As such for some Govt. staff it has become difficult to work in the far-flung interior and difficult areas with competence and confidence as they are lacking in one of the basic necessities of life. During the 6th Plan period the total requirement of buildings of different categories in the housing department alone was 5191 units. Against this the State Government could construct only 438 buildings with an expenditure of Rs. 530 lakhs which is less than 10% of the requirement.

At present, the total housing stock in the State is around 15,000. There is a shortage of about 9883 houses. By the year 1991 there will be shortage of around 23,684 housing units. During the 7th Plan period, the Govt. aims to provide atleast 20% accommodation satisfaction to the Govt. servants for which an amount of Rs. 2000.00 lakhs has been estimated. Housing loans are given to people belonging to low income and middle income groups.

INTEGRATED DEVELOPMENT OF SMALL & MEDIUM TOWNS

In a developing State like Nagaland where there has been rapid expansion of existing towns and a number of new Townships coming up, the role to be played by the Urban Development Department is very important. The Department is actively involved in the preparation of Master Plans and other Development Schemes. The Department has so far completed preparation of Master Plans upto the District Headquarters and the Project Report on the New Kohima Township. Integrated Development of Small and Medium Towns scheme was introduced in the State during the year 1983-84. Actual implementation started by the end of the 6th Five Year Plan. Under this scheme only Kohima Town has been taken up at the beginning. The scheme has been extended to other towns like Mokokchung and Tuensang during 1985-86. The scheme will continue which will cover all the major towns.

Under the above scheme the Department has constructed 2850 meters of foot-path, 13 Nos. of Passenger Bus Shelter and 3 Nos. of Markets have been completed. Out of this, 36 shops are opened and now functioning properly. Besides this a number of existing market have been improved and some are under

construction. The total expenditure incurred for the above works upto 1985-86 is around Rs. 70.32 lakhs. In the Seventh Plan more emphasis has been given on Civic Amenities and construction of Daily Markets.

SPECIAL PROBLEMS

The isolation of Nagaland from the rest of the Country is a fact of history. This is due to its very nature of the land and its people. Even after the Independence when the rest of the Country was making peaceful economic transformation through successive Five Year Plans, Nagaland could not avail the opportunity of socio-economic development. For full two decades from 1955 to 1975 there was political unrest, continued insurgency and social upheavals. This is the reason why the State Government could not give attention to all the development work.

Nagaland is totally dependant on road transport. However, due to difficult terrain and geological instability together with heavy rainfall, construction of roads and their maintenance becomes extremely difficult and more costly. The State is endowed with abundance of raw materials which can sustain feasible industrial projects. However, the cost of transportation for essential building materials and also of sending of finished products to the market becomes uneconomical. This is further accentuated for long-road distances to bring materials as well as finished products to the markets. This hampers the economic development. In fact, infrastructural development may be regarded as one of the most important stages of industrialisation which promotes restructuring of the economy of the State. Nagaland transition from traditional subsistence economy to market economy would, therefore, need larger investments for infrastructural development as the development in the State's economy is dependent mostly on the availability of infrastructural facilities in various fields like road Communication, Agriculture, Power, Market development etc.

With the advancement in education, Nagaland is no longer free from the problem of unemployment. As a matter of fact, the number of educated unemployed is growing very fast. Till December 1984, there were 11,917 persons on the live registers of employment exchanges in the State. The State Government has therefore, decided to establish a net-work of Industrial Training Institutes in the State for promotion or self-employment programmes among the educated youth.

The people are changing their way of life and attitudes from traditional tribal society to modern way of life. The average per capita income increased from Rs. 508/- in 1970-71 to Rs. 1438/- in 1980-81. Now broadly, the problem is to bring the people of the State in the main stream of National life both politically and economically. This can be done by enlisting their active participation in the greater National effort for speedy economic development as well as to bring about unity and emotional integration of the people to the rest of the country for no area can be develop in isolation. If Nagaland is to go alongwith the rest of the country in its economic development, then it requires large PLAN investment to build up its infrastructure for quick transformation and industrialisation.

TABLE-2
DECENNIAL GROWTH OF POPULATION 1971 TO 1981

State/District	Total population		Decennial growth		Sex Ratio	
	Population in 1971 (and rank)	Population in 1981 (and rank)	rates (percentages)		(Females per 1000 Males)	
			1961-71	1971-81	1971	1981
1	2	3	4	5	6	7
NAGALAND	516,449	774,930	39.88	50.05	871	863
1. Kohima	130,610 (1)	250,105 (1)	40.97	91.49	771	790
2. Phek	44,594 (6)	70,618 (5)	32.50	58.36	907	873
3. Wokha	38,297 (7)	57,583 (7)	30.49	50.36	980	913
4. Zunheboto	47,093 (5)	61,161 (6)	23.62	29.87	982	964
5. Mokokchung	82,852 (3)	104,193 (3)	28.02	25.76	935	907
6. Tuensang	108,863 (2)	152,332 (2)	30.37	39.93	922	892
7. Mon	64,140 (4)	78,938 (4)	26.32	23.07	884	870

Source : Population Census, 1981.

TABLE -3.

DISTRIBUTION OF WORKING POPULATION BY AGRICULTURAL AND OTHER WORKS

State/District	Total Rural Urban	Percentage of Agricultural and other workers 'o total population							
		Cultivators		Agricultural Labourers		Other workers		Non-Workers	
		1971	1981	1971	1981	1971	1981	1971	1981
1	2	3	4	5	6	7	8	9	10
Nagaland	T	39.37	34.36	0.74	0.38	10.64	13.49	49.25	51.77
	R	43.52	40.29	0.76	0.39	6.51	9.99	49.21	49.33
	U	1.84	2.07	0.46	0.35	48.08	32.55	49.62	65.03
Kohima	T	34.93	25.09	0.77	0.80	15.25	20.06	49.06	54.05
	R	42.89	33.77	0.88	1.02	7.68	14.44	48.55	50.78
	U	1.89	1.48	0.03	0.32	46.71	35.37	51.10	62.93
Phek	T	—	42.04	—	0.09	—	10.69	—	47.18
	R	—	42.04	—	0.09	—	10.69	—	47.18
	U	—	—	—	—	—	—	—	—
Wokha	T	—	32.72	—	0.08	—	10.08	—	54.72
	R	—	37.92	—	0.10	—	7.26	—	53.72
	U	—	1.33	—	—	—	27.08	—	71.59
Zunheboto	T	—	35.45	—	1.16	—	10.62	—	53.77
	R	—	39.77	—	0.11	—	7.97	—	52.15
	U	—	5.37	—	0.48	—	29.12	—	65.03
Mokokchung	T	34.74	28.31	0.09	0.27	10.80	12.90	53.37	58.53
	R	38.55	33.91	1.14	0.16	6.18	10.10	54.13	55.82
	U	1.74	1.59	0.79	0.76	50.75	26.21	46.72	71.44
Tuensang	T	48.37	43.02	0.35	0.12	5.84	8.73	45.44	48.11
	R	48.37	46.46	0.35	0.07	5.84	6.93	45.44	46.53
	U	—	3.65	—	0.67	—	29.42	—	66.26
Mon	T	—	48.43	—	0.38	—	9.84	—	41.34
	R	—	52.75	—	0.38	—	7.20	—	39.67
	U	—	3.41	—	0.30	—	37.46	—	58.83

Source : Population Census, 1981.

ORISSA

MEMORANDUM NATIONAL COMMISSION ON URBANISATION November, 1987

1. INTRODUCTION

Government of India have set up a National Commission on Urbanisation, under the Chairmanship of Sri Charles Correa, to examine the problems of urbanisation from the smallest towns to largest metropolises and to evolve an integrated Policy for urban development, suggest a suitable direction to carry out future programme and determine a meaningful national urbanisation policy. State Government, interested individuals and Organisations were earlier requested to furnish informations and other factual data relating to demographic, employment, physical, fiscal, shelter, aesthetic and cultural aspects of urbanisation in the country.

1.1 The Commission was given the following terms of reference :

To examine the state of urbanisation in the country with reference to the present demographic, economic infrastructural, environmental, physical, shelter, energy, communication, land, poverty, aesthetic and cultural aspects;

To identify priority action areas, make projections of future needs and estimate available resources; To formulate and recommend basic guidelines for the specific action plan in each of the identified priority action areas;

To evolve and recommend policy frames and suggest basic approaches for the encouragement of manageable urbanisation;

To recommend an institutional framework for monitoring the effective implementation of the Commission's recommendations; and

To consider any other matter having a bearing on urbanisation and make suitable recommendations thereon.

1.2 Various Departments connected with urbanisation were requested to furnish factual information on various aspects of urbanisation as per model format circulated by the Commission, abstracts of which forms parts of this memorandum. Government in Housing & Urban Development Department in their letter No. 43727/HUD., dt. 3-11-1986 have forwarded an Interim Memorandum to the N.C.U. The above

interim memorandum incorporated in situational analysis of urbanisation outlining international, national and State urban scenarios, analysed the unmanageable trends of urban growth, particularly noticed in the proceeding decade, worked out the urban perspectives of Orissa by 2001, indicating requirement of funds etc. A conceptual frame-work towards spatial-sectoral integration, systematic development of a hierarchy of human settlements as channels, into which a hierarchy of socio-economic inputs, services and necessary institutions to be channelised were suggested to help promote balanced economic growth of the State. Besides, outlines of the human settlement development policy and other related aspects of urbanisation were incorporated in the above Memorandum.

1.3 FIRST INTERIM REPORT BY NCU

The NCU in January, 1987 have submitted their first interim report to the Government of India. It advocated that urban places be treated as part of our national resources, deserving attention similar to other resources like agricultural land, forest, river and mineral wealth etc. The recommendations include amendments to the Urban Land Ceiling (Regulation and Control, Act, 1976 and also rationalisation of various state Rent Control Acts to remove the legal impediments to promote development in the housing sector. Besides, constitution of a rehabilitation fund to promote housing activities through self-help, incremental housing, declaring the four leading metropolitan centres of Delhi, Calcutta, Madras and Bombay as National Cities and creation of a fund of Rs. 1000 crs. for development of these cities were recommended.

1.4 The Commission have identified 17 metropolises and large size cities and about 538 fast growing towns within a population range of 50,000 to 5 lakhs, having growth rate exceeding the national average of 46.02% to be planned as regional growth centres. The Commission have also called for a fundamental change in our conventional attitude to urbanisation and the process that generates in indicating that our present policy has lot of adhocism, promising further to examine in detail other policy formulations of Government on industrialisation, land, housing, land use and waste land development, human settlements, energy and environment etc.

1.5 The State Government in their comments with respect of the above 3 broad recommendations, incorporated in the first interim report of the NCU, generally welcomed the proposed amendments to the above two Acts indicating that the imposition of a tax on the vacant land should exclude the Government lands. Creation of a fund for development of national cities, however, required a critical review, in the light of the present urbanisation policy of deliberate development of small and medium towns for balanced growth. The decrease in the coverage of IDSMT towns in the 6th and 7th plan is viewed with concern by the State Government.

1.6 The NCU had constituted various working groups to study in detail the related aspects of urbanisation. Secretary, Housing & Urban Development, Orissa was a member of the Working Group on Resources for urbanisation.

2. STATE'S PERCEPTION OF URBANISATION

Urban India, with a population of about 160 million living in 3245 urban settlements that account for less than 2% of the land mass of the country accommodating about a fourth of India's population, is one of the most populated entities in the world. Rural India accounts for remaining 75% of the population living in some six lakh settlements of various sizes, with an annual average growth varying between 0.8 to 1.8%, with large settlements growing faster. Rural-Urban Settlements as such, cannot be perceived in isolation from one another. Natural resources like water and energy have to be apportioned for meeting the requirements of the population as a whole. In India, the rapid rate of urbanisation is catching us at a galloping speed, triggered off by the process of development. Our urban scene indicates a metropolitan centred urbanisation, as distinct from the decentralised urban growth. The alarming concentration of population in flow, particularly to the megacities has been very lopsided and our premature metropolises, similar to most developing third world countries, have arrived rather too soon, in the absence of a clear cut policy for development of a human settlement system in general, which is causing a crisis situation.

2.1 Having regard to the finite natural resources and other environmental issues, it is imperative that carrying capacities (optimum population sizes) of human settlements of various sizes and functions are worked out of accommodate, only such a quantum and mix of developmental activities which can be sustained through optimum utilisation of natural resources. Development of man essentially depends on environment, institution, energy and technology as a package. Unfortunately, over the years, our attitude towards development of human settlements has been somewhat confused. There is an improper understanding of the change process that effects our human settlement system. The four giant metropolises and the megacities represent the emerging industrial era and the large number of small and medium towns and numerous villages of different sizes and functions, that are rapidly declining, represent the agricultural era. The present

confusion can be explained in the words of C.A. Doxide as under :—

"We have to deal with one problem, the problem of human settlement. We cannot break this overall problem into many partial ones and try to solve them separately".

2.2 Alvin Toffler, in his book "The Third Wave" clearly describes three great waves of changes—agricultural, industrial and now super-industrial civilisations, that are taking place, simultaneously, in many countries, at different speed, having an impact on the quality of life, environment, energy, production methods and settlement of man. Agricultural revolution brought the villages as dispersed settlements based on renewable energy. The industrial revolution brought concentration of work at the metropolises, and now the super industrial revolution, with its technological refinement aims at dispersal of work. In a nut-shell, an approach towards reversal of flow of concentration to dispersed locations—a de-urbanisation which is somewhat akin to the agricultural society. Any policy thrust for future development of human settlements of the country must be based on the above dynamic concept. Toffler describes our present efforts :—

"We stumble from crisis to crash programme, lurching into future without plan, without hope and without vision".

2.3 THE URBAN CHALLENGE; ENVIRONMENT AND DEVELOPMENT

The World Commission on Environment and Development, chaired by the Prime Minister of Norway Mrs. Grow Herlam Brundthant, in their report titled **OUR COMMON FUTURE** have rightly called for urgent and decisive political action for managing better environmental resources. It calls for new approaches for development, concerning areas of population, food security, energy, industries and human settlements. To meet the urban challenge, it had called upon Governments to develop explicit settlement strategies, to guide the process of urbanisation, taking the pressure off largest centres and build up smaller towns and cities, very closely integrating them with their rural hinterland. This naturally requires examining and making such changes in policies of population growth and their development, land, housing transportation, health and sanitation and industrialisation which at times work against the goals of settlement development.

3. URBAN SCENARIO-INDIA

There has been a spectacular increase of India's urban population from a mere 62 million in 1951 to 159 million in 1981. Analysis of the urban distribution of the urban population in various size of the urban settlements is equally disturbing. The 226 Nos. of Class-I towns, including the 12 metropolises, accounted for 60.18% of India's Urban Population. These together had a growth rate of 55.5% and accommodated 60.96% of net urban increase in the last decade. Existing system of settlements at the national and state levels indicates that most of the systems lack in rank-size distribution. There are twelve

metropolises, 28 cities within the range of 5 to 10 lakhs, 62 cities within the range of 2 to 5 lakh and 114 urban settlements of 1 lakh (+) category. Besides, there are 270 class-II Medium Town of 50,000 (+) group and 739 Class-III Small towns of 20,000 (+) category. The last group and 1048 Nos. of Class-IV, 742 Class-V and 230 Class-VI towns are all rapidly declining hardly discharging their role as growth centres for their hinterland.

3.1 The NCU have identified some 555 settlement, (again within the broad population range of 50,000 to 5 lakh under one category), having growth rate exceeding the national average of 46.02% as potential growth centres, whose economic and infrastructural base is to be strengthened to attract migrational shifts for balanced redistribution of future population. The norms of accessibility and the physical distance between various size class of settlements (both urban and rural) should be incorporated in the policy for human settlement development.

3.2 The rural settlement in India generally shows a static picture. More than 50% of over 6 lakh rural settlements of the size of less than 500 have a growth rate of 0.8% per annum. The growth rate of some 1358 large rural settlements over 10,000 size is at a nearly static level of 1.8% per annum. Policy formulation for rural settlements should consider the compulsion of providing basic services and amenities concerning energy, water supply, sanitation and shelter in all settlements. However, for a balanced and dispersed growth, formulation of a perspective plan for development of a hierarchy of human settlements namely, the Central villages, service centres, growth points, growth centres, and growth poles appears desirable into which a hierarchy of socio-economic inputs and services and institutions for delivery of such services are to be suitably channelled. A perception of above conceptual spatial-sectoral integration was earlier indicated in the Interim Memorandum of Government of Orissa to the NCU.

3.3 Obviously, the present hyper-urbanisation is attributable to the mal-distribution of economic growth over space-absence of proper spatial-sectoral integration. In the words of Prof. P. R. Dubhasis; "Perhaps as a result of the neglect of the spatial aspect of planning, it has been now realised that it has led to apoplexy at the centre and anaemia at the periphery".

4. URBAN SCENARIO IN ORISSA

Orissa, the eleventh populous State in India, accounted for nearly 4% of India's population and about 2% of its Urban Population in 1981. It is still one of the least urbanised States of the Country with 11.82% urbanisation (less than half of the national average). The urban population of the State at 31.06 lakh in 1981, however, registered a growth rate of 68.92%. The six Class-I towns of the State accounted for 41.64% of the State's total urban population registering a growth rate exceeding 133%. The share of 8 Class-II towns is another 12.76% that had a growth rate of 169.41% and accommodated a fifth of the net increase of urban population during the last decade. 26 Class-III towns had a static growth of

15.81%. Similarly 28 small towns each with less than 10,000 population are either static or declining. Only 40 Class-IV towns within the range of 10-20,000 have an impressive growth rate of 67%.

Fortunately for Orissa, the primacy of Class-I town is relatively less pronounced and through a deliberate policy of settlement developments particularly of the small and medium towns, they can be made to effectively discharge their functions as market towns in the coastal districts and at Sambalpur and within the Command Area of major Irrigation Projects. These small and medium towns need be developed to function effectively as growth centres.

4.1 The extent of rural urban continuum is less pronounced in the Central and north western parts and within the tribal area Sub Plan. The mineral rich north and south western parts of Orissa have contributed to the establishment of a series of new industrial towns which are transplanted settlements in the Tribal area Sub-Plan with no functional interlinkage with the surrounding rural hinterland.

4.2 Orissa Urbanisation Perspective by 2001

To fully integrate development of Urban Settlements within next 15 years in Orissa, a spatial plan for development of the existing 108 Urban Centres and 113 settlements expected to acquire urban characteristics by 2001 have been attempted. Though subjective, the above identification is made crudely in consideration of their accessibility, population base, linkages with hinter land, proximity with other towns, likely establishment of proposed industries, project towns and their administrative and service importance. The envisaged urbanisation scenario of Orissa by 2001 is depicted in Annexure-I and the drawing enclosed.

5. NEED FOR CENTRAL SCHEME FOR DEVELOPMENT OF TRIBAL TOWNS

The tribal area sub-plan of Orissa accommodates 26 towns out of a total of 108. The State Government had earlier forwarded a short project report to Government of India envisaging an investment of Rs. 25.79 crores for strengthening their economic and infrastructural base to effectively function as growth centres. Admittedly, the very low coverage of towns under IDSMT can hardly make such funds available for their developments. Considering the inbuilt problems of backwardness, both economic and social, of these areas, there is a need for formulation of a new Central Scheme for these and other rural growth centres. This has to be dovetailed into the National Plan through judicious relocation of funds under the Ministries of Rural Development, Urban Development and Welfare.

6. IMPLEMENTATION OF SCHEMES

The Directorate of Town Planning through its 9 field establishments have prepared the Master Plans of 52 towns of which 34 Master Plans have so far been finalised.

6.1 Planning Authorities and Enforcement

The State has three types of set up of Planning Authorities, viz :—Development Authorities, Improvement Trusts & Special Planning Authorities. Two Development Authorities for the premier cities of Cuttack and Bhubaneswar have been constituted under the provisions of the Orissa Development Authorities Act, 1982. Five Regional Improvement Trusts have been constituted for the other Class-I towns and surrounding 2 Otown groups of their respective regional hinterlands, under the provisions of the Orissa Town Planning and Improvement Trust Act, 1956. 23 Special Planning Authorities have also hence constituted under the O.T.P.T. Act for development of the isolated towns which are mostly district and Sub-Divisional headquarters.

6.2 IDSMT in Orissa

During the 6th Plan period Government of India had allotted only six towns for Orissa under the Centrally sponsored scheme of IDSMT, though project reports for eight towns were submitted to them. In these six towns of Sambalpur, Puri, Balasore, Rourkela (CT), Jeypore & Dhenkanal covered under the IDSMT in the 6th plan, for implementation of various sites and services, traffic and transportation and commercial schemes, central assistance to the tune of Rs. 237.50 lakhs were released and with a combined expenditure of Rs. 429.59 lakhs 1090 developed house sites, 423 shops, improvement of 15.46 Kms of road, bus stand and truck terminal etc. have been constructed.

6.3 IDSMT in the 7th Plan

The State Government for the 7th Plan initially fixed an ambitious target for coverage of 20 towns in Orissa which was subsequently slashed down to 10. So far, three Projects of Baripada, Keonjhar and Balangir have been sanctioned for execution and central assistance of Rs. 60.00 lakhs alongwith State Government matching grant of Rs. 27.36 lakhs have been released so far. Projects of Bhawanipatna, Athagarh, Jagatsinghpur and Khurda await clearance from Government of India.

6.4 Impact of IDSMT

The Central Scheme of IDSMT, not to mention the reduced priority given to it for the 7th Plan in terms of coverage, essentially boils down to investment to the tune of Rs. 1.04 crore per town for infrastructural development on equal matching participation basis by the State Government and implementing agencies. Notwithstanding the laudable objective to promote systematic development of small and medium towns, the present scheme of IDSMT can make very marginal system integration or can supplement the rural development programme.

6.5 Shifting Policies and Investment Disparities

Initiated with certain vigour from the 3rd five year plan with full financial assistance given by the Central Government, Master Plans for some 575 towns could

be prepared. The 4th five year plan recommended regional approach to the problems of urban development. However, preparation of master plan was brought to the state sector, which was given the responsibility for their implementation. Because of chronic resource constraints, allocation for infrastructure and housing continued to receive least priority. A scheme for integrated development of towns known as IUDP was introduced in 31 cities within the range of 1-3 lakhs during 1974—79, which were provided assistance of Rs. 136 crores. The Sixth plan started with integrated development of small and medium towns (IDSMT) as the policy for settlement development under which Rs. 96.00 crores could be spent in 236 towns. When execution of IDSMT was picking up and becoming popular with each State clamouring for more towns, the coverage in the 7th Plan has been reduced to a mere 100 additional towns.

6.6 It is suggested that the conceptual short comings in the framing of IDSMT be removed, components of the programme be increased and the coverage under IDSMT be consistently increased in successive plans, with increased Central Government participation to 75%. (50% as loan and 25% as grant). As reiterated earlier formulation of a new central scheme for development of towns within the tribal area sub plan and other rural growth centres should also be considered.

7.0 REQUIREMENT OF FUNDS FOR URBAN DEVELOPMENT

As indicated in the State Government's interim memorandum, requirement of funds under various schemes of rural and urban water supply and sanitation, water supply and sewerage for Capital administration, shelter and housing, IDSMT, State Urban Development Finance Corporation, Urban basic services, grants to Urban Local Bodies and Planning Authorities, strengthening of the Municipal Engineering Cell and for financing Capital Administration Project, by the turn of the century, have been worked out which is placed in Annexure-II.

8. HOUSING

Various housing schemes are under operation with a view to bridging the gap between an expanding demand and supply. The programmes and policies are particularly aimed at providing affordable shelter to the weaker sections, slum dwellers, low income groups, Scheduled Caste and Scheduled Tribes. The programmes also embrace provision of serviced plots. The schemes are operated through the District Collectors, D.R.D.As, G.A. Department of the State Government, Housing Board, Development Authorities, Improvement Trust, Planning Authorities and Co-operative Housing Corporation.

2. Low Income Group Housing Scheme

Persons whose annual income is Rs. 7,200 or less are eligible to avail of maximum loan assistance of Rs. 14,500/- being limited to 80% of the cost of house including land to construct houses recoverable in 25

or smaller number of equal annual instalments of Principal and interest. The repayment shall commence one year after the disbursement of the first instalment of loan amount. The Collectors and the Director of Estates, G.A. Department are the executing agencies. The accommodation to be provided in each house under this scheme should not be less than 232 sq. ft. floor area and normally not more than 1200 sq. ft.

3. *Middle Income Group Housing Scheme*

Under this scheme persons whose annual income is between Rs. 7,201/- to Rs. 18,000/- are given maximum loan assistance of Rs. 27,500/- being 80% of the estimated cost of house including the cost of developed land recoverable in 25 annual instalments. The accommodation to be provided in each house should not ordinarily be less than 400 sq. ft. and more than 2000 sq. ft. Collectors and Director of Estates, G.A. Department are executing the schemes.

1. *Village Housing Project*

This scheme was originally meant for building fire-proof houses in rural areas. Under the scheme maximum loan assistance of Rs. 5,000/- being 80% of the estimated cost of a house including cost of the land was given to bonafide residents of village having homestead land, recoverable in 20 annual instalments. The scheme was operated through Collectors of the Districts.

But from the year 1986-87 this scheme has been converted as Rural Housing Scheme to be operated through Orissa State Housing Board and Orissa Co-operative Housing Corporation. The estimated cost of each house is Rs. 6,000/-. A person belonging to Economically Weaker Sections i.e. whose monthly household income is within Rs. 350/- and having a house site free from encroachment and encumbrances, is eligible to avail of this loan. The plinth area is 160 sq. ft. This loan will be recovered from beneficiaries quarterly within a period of nine years with interest at an average rate taking into account interest on HUDCO loan and loan of State Government.

5. *Rental Housing Scheme*

The scheme is meant for construction of different type of quarters for Government Employees in different places of State through Orissa State Housing Board, Development Authorities and Works Department. The houses are constructed as per the plans and schedule of rates decided by the Govt. from time to time.

6. *Bidi Workers Housing Scheme*

Under the scheme Govt. of India give subsidy of Rs. 3,000/- for construction of houses for Bidi Workers of the State and the State Govt. provides a loan of Rs. 3,000/- for each beneficiary. The Orissa State Housing Board is executing the Scheme.

7. *Demonstration Housing Scheme*

Under this scheme houses are constructed for economically weaker sections of community. One third of the total cost of each house is released by

N.B.O. as grant and balance 2/3rd is sanctioned by the State Govt. as loan. Environmental development expenditure is also borne by the N.B.O. The Scheme is executed through the Executive Engineer, Rural Housing Cell of the State Government.

8. *Slum Dwellers Housing Scheme*

There was about 5 lakhs slum population in slum areas of Urban Local Bodies by 1981. But a survey was conducted to assess the number of slum dwellers in 20 towns of the State. The result indicated that slum dwellers constitute 17.49% of the total population of those towns. On the basis of this survey it can be roughly estimated that there are about 7.30 lakhs slum dwellers in the State who require dwelling units. Houses are also being constructed for the slum dwellers through the Orissa State Housing Board.

9. *Integrated Housing Scheme*

Under the scheme low cost houses are provided to the home steadless labourers who are weaker section of the community. House-site is provided by the Revenue Department free of cost. Originally the scheme envisaged payment of construction assistance to the beneficiaries and the B.D.Os were executing agencies under the direct supervision of Collectors. Previously the estimated cost of the house was Rs. 2,000/- out of which Govt. releases grant of Rs. 1,500/- as assistance per each house and the balance Rs. 500/- is borne by the beneficiaries in shape of labour or building materials.

But from the year 1986-87 this scheme has been revised. The estimated cost of each unit is Rs. 7,500/- out of which State Govt. gives a grant of Rs. 3,000/-, Rs. 3,000/- is brought from HUDCO as loan and the balance Rs. 1,500/- is borne by the beneficiary in shape of labour or building materials. The scheme is meant for construction of houses for non-tribals and non-harijans with the house site allotted by Revenue Deptt. Cost of infrastructure is met out of N.R.E.P. funds. The Orissa State Housing Board is executing the scheme.

10. *Indira Awas Yojana and houses constructed under N.R.E.P.*

Besides the schemes as explained above, houses under Indira Awas Yojana and under N.R.E.P. are constructed by the C.D. & R.R. Deptt. for the SCs and STs in the State at an estimated cost of Rs. 6,500/- (there is a provision of Rs. 1,000/- for difficult terrain and black cotton soil) per unit. Besides Govt. of India have authorised to invest another sum of Rs. 3,000/- for development of infrastructure facility. Govt. of India have meanwhile revised the estimated cost of Rs. 6,500/- to Rs. 9,000/- per unit without any change so far as infrastructure cost is concerned.

11. *The Orissa Co-operative Housing Corporation*

The Orissa Co-operative Housing Corporation is also extending loans for housing activities through 63 Primary House Building Co-operative Societies.

12. Schemes operated in urban areas

Composite housing schemes for E.W.S., L.I.G., M.I.G., H.I.G. category and schemes intended for provision of serviced plots are under operation through the Housing Board, Development Authorities, Planning Authorities, mostly with HUDCO assistance.

13. Shortage of Housing in Orissa

It is estimated by National Building Organisation that by 1985 there were 7.41 lakh people in rural area and 1.01 lakh people in Urban area, totalling 8.42 lakh people in the State homeless. However, these figures do not include houses which are mere excuses for dwelling units and which pass for human habitation. Real shortage would be much more. It is estimated that the total short-fall of dwelling units by 1991 would be 1.21 million and by turn of the century it would be 1.41 million. The total requirement of funds to meet the shortage would be of the order of Rs. 556 crores by 1991 and Rs. 878 crores during the decade 1991 to 2001.

14. A Draft National Housing Policy has been prepared by the Government of India. The Housing Ministers' Conference at Srinagar also passed certain resolutions pertaining to future course of action on vital matters and issues. Some of the basic points which were emphasised upon the Conference are as follows and need serious consideration.

- (a) Government and its agencies will play the role of promoters and facilitators of housing activity rather than builders. This can be done by providing serviced plot, credit and building materials. There is absolute need for individual and private efforts in the provision of housing.
- (b) The disadvantaged section should specifically include the physically and mentally handicapped persons.
- (c) The objective should be to provide shelter to every houseless by 2001 A.D.
- (d) Provision of shelter should be conceived in terms of improvising the over-all quality of life by providing health, hygiene and sanitation and improving the internal and external environment.
- (e) There should be promotion of the use of non-conventional sources of energy in the housing activity in a wider and increasing scale.
- (f) The low cost technology should be applied generally.
- (g) Higher priority be accorded for housing the poor in the hilly and inaccessible areas by evolving appropriate designs and technology.

15. For the rural poor different Housing Schemes are under operation. Wherever possible local materials are being used for building construction. It is

also desirable to develop low cost technology. Building centres have been instituted in Kerala for development of low cost technology by using local materials. This is under consideration of Government.

16. There is need for mobilisation of additional resources to bridge the gap between demand and supply of housing. An increase in demand calls for resources of a very high magnitude and unless the problems of finance are effectively tackled the aspiration of providing shelter to every homeless person by end of century would not be fulfilled. The State Government finds it extremely difficult to allocate limited resources among the priority sectors. Special central assistance may be available for housing for Scheduled Castes and Scheduled Tribes to the State Governments with higher Scheduled Caste and Scheduled Tribe concentration.

9. ENERGY :

(1) *An appraisal of the availability of energy in Urban areas from various sources of :—Conventional and Non-conventional, Production and distribution pattern.*

Most significant commercial energy sources are coal, oil and electricity.

Total requirement in 1989-90 is	10552 MW	Addition to the capacity
Likely to be available	6745 MW	to cover the shortfall has
Shortfall	3807 MW	not yet been finalised.

Various generation options for new starts of 7th & 8th Plan should be settled and percentage of State share from Central Generating Stations by 2000 should be spelt out to assess the surplus/deficit.

O.S.E.B. at present is not able to generate internal surplus to finance the plan funds for mounting higher system improvement schemes required for transmission and distribution of power at proper voltage and without line constraint. Additional funds of Rs. 56.00 crores would be required in each of the 7th & 8th Five Year Plan for T & D infrastructural development to transport power to both urban and rural areas.

(2) *An assessment of demand and supply of energy in the context of urbanisation*

For lighting cooking and utilisation of appliances in the household sector certain normative level of energy requirement has to be fixed. Variety of fuels utilised as household energy are soft coal, kerosene, LPG, firewood, animal dung, electricity and vegetable waste which vary as per income, agro-climatic conditions, availability, sale price of energy etc.

Energy consumption for portable drinking water supply, street light and other general purposes like market supply centre etc. on account of urbanisation has to be separately assessed.

Demand of electricity changes with the improvement in efficiency in utilisation and industrial mix.

Source-wise share of energy in the industrial sector, i.e. electricity, coal, oil etc. also needs to be assessed.

In the transport sector on account of urbanisation, movement of coal, cement, food-grains, iron and steel, diesel and petrol etc. will rise. Its impact on rail and road has to be estimated with reference to production level of all these commodities. The utilisation of steam, electric traction or diesel oil transport has to be estimated to assess the need of energy.

It is difficult to make forecast on energy demand due to impact of urbanisation for the reasons mentioned above.

The 13th Power Survey Committee has been formed on 4th February, 1986 to determine demand upto 2004-05. Assessment of demand and supply of energy for domestic, industrial transport sector etc. can be made after the study of the Power Survey Committee is completed.

The 12th Power Survey Committee made micro-level forecast using end-use technique and made assessment of energy requirement and availability for Orissa upto 1989-90. Keeping the 12th Power Survey results in view requirement of energy for various sectors has been worked out as mentioned below.

PATTERN OF UTILISATION OF ELECTRICAL ENERGY IN ORISSA

Sl. No.	Category	1989-90		1999-2000		Remarks
		Energy consumption MKWH	% to total	Energy consumption MKWH	% to total	
1	2	3	4	5	6	7
1.	Domestic	765	8.84	3390	11.06	
2.	Public lighting & public water works	112	1.30	450	1.47	Due to continuous power shortage demand pattern in getting distributed.
3.	Irrigation dewatering etc.	180	2.08	825	2.69	
4.	Railway traction	310	3.59	980	3.20	
5.	Commercial & Non-industrial	788	9.11	3373	11.00	
6.	Industrial	6495	75.08	21642	70.58	
Total :		8650	100.00	30660	100.00	
Energy requirement at power Stn. bus bar of utility as per 12th PS			10552		37385	
Additional requirement out of captive generation as per 12th PS.			4551		N.A.	

(3)a. Scouting of new sources of energy

Solar-Utilisation of solar thermal energy as solar cookers is possible. In case of Photo Voltaic system the cost is about Rs. 100/- per peak watt. This is to be reduced 1/4 to make economically viable. Solar pumps, for drinking water, irrigation and photo voltaic street light in villages can be considered.

Wind :—Large scale wind electric generation is yet to take shape. Experiment on wind energy by establishing wind farm in coastal belt has been started.

Biogas :—Target of 7.5 lakh plants for 7th Plan has been fixed under National Project on Bio-gas development (family size plants). Gas generation in hill area during winter months is poor.

Bio-mass :—This is in research stage and its utilisation in future depends on bio-mass based wood-gassifier engine for irrigation and drinking water purposes.

Urban waste :—Energy recovery and sewerage treatment plants near big cities has to be planned for inclusion in the 7th and 8th Plan.

In order to make up the shortfall of energy requirement of 1989-90 new energy resources of coal thermal is required. It is difficult to forecast the new addition of thermal, hydro and oil-based generating units by 1999-2000.

(3) b. Energy conservation measure :

Conservation potential	25% in Industrial sector
	20% in transport
	30% in Agricultural sector
	Limited in domestic & Commercial sector.

An energy conservation fund has been proposed to carry out conservation measures.

OSEB has to take up time bound programme for the following works :—

(i) Energy Audit :

- (a) Installation of metering arrangement at various stages of transmission to

monitor EHT transmission loss, sub-transmission loss and distribution loss.

- (b) To monitor energy consumption in units consuming 1 MW or more.
- (ii) Reduction of T&D loss by expediting execution of system improvement scheme.
- (iii) Power factor improvement to reduce the loss and improve the capacity by installing shunt capacitors near load centre.
- (iv) Reduction of several transmission stages to minimise energy loss.
- (v) Conservation in auxilliary consumption of thermal power station.
- (vi) Educating public on energy conservation.
- (vii) Implementation of traffic schedule encouraging conservation attitude and in providing penal provision to curb wastage in utilisation.

(4) Constraint in implementation of energy pro-growth of urbanisation in 2001—2025.

The generation expansion programme, transmission and distribution development activities are being decided at the planning commission level before 5 Year Plan and annual plan.

Power cuts and load-shedding have been resorted to because of non-expanding power system in a desired way.

REQUIREMENT OF FUNDS FOR GENERATION/TRANSMISSION/DISTRIBUTION SECTORS

	(Rs. in crores)
Generation	678.65
	(As per draft 7th Plan)
Transmission & Distribution.	445.00
	1123.65
Reduced while finalising 7th Plan fund :	
Generation	432.84
Transmission & Distribution.	222.00
	654.84

(5) Future energy programme to keep pace with the growth of urbanisation in 2000—2025.

Without detail study/survey a realistic assessment in this regard is not possible.

10. ENVIRONMENT

There is a growing concern for environmental awareness in the present day world. The harmony between mankind and nature must be maintained. Various measures are taken for environmental awareness among the Focal groups and General Public.

(a) Measures suggested for Focal Groups

- (i) For legislators and Peoples, Environmental Conferences.
representatives.
- (ii) Administrators, decision Seminars
makers, professionals & Orientation Programmes
Executives. Guided tours to places
where signs of environmental degradation are visible.

Kept informed about emerging environmental issues.

Can be made aware of their social responsibilities through radio and T. V. talk and newspaper articles.

(b) For Youth & Children

Environmental education "Environment" should form a part of curriculum in various levels of institutional education.

(c) For students

Competitions
Nature treks and camps
Nature clubs
Eco-development camps to be organised by N.S.S. and N.C.C. units of School and Colleges.

(d) For the non-student youths.

Adult education classes.
N.Y. Kendra can organise Eco-development camps for youths involving youth hostel association and N.G.Os.

(e) For tribals

Organisation of Peoples' Workshop in tribal belts.
Cultural programmes by tribals in tribal dialect.
Discussion, dialogues with tribal community leaders.

(f) For General Public

An extensive information dissemination system should be organised.

Media men's convention involving the radio-men T.V. men and Pressmen.

Production and screening of good feature films.

Paintings, placards and posters for environmental awareness.

Cultural programmes like mela, yatra, puppet, dances, poems, workshops, plays, street corner plays.

Pada Yatra and Cycle March.
Publication of magazines and news letters.

The programmes must cover both rural and urban areas.

11. EMPLOYMENT : *An appraisal of Employment situation in Urban Areas.*

The number of unemployed in the live registers of employment exchanges in the State as on 31-12-1986 was 9,00,498.

Category-wise Break-up

A-General

Below Matric, Matriculates, Intermediates	7,46,755
Graduates	1,01,869
Post Graduates	6,731

B-Technical

Diploma Holders	4,960
I.T.I. passed	18,777
C.T. Trained	19,472
Technical Graduates including Engineering Graduates	1,907
Post Graduates (Technical)	27
	<hr/> 9,00,498 <hr/>

The Statistics of the past three years indicate that—20,000 vacancies are notified every year. 15,000 candidates are able to get jobs. 20,000 unemployed youths enrolled themselves in the employment exchange every year.

(2) *Characteristics of Labour Force*

(a) Under the migrated Labour Force.

Orissa is a labour surplus State.

Thousands of labourers migrate from Orissa to Uttar Pradesh, Haryana, Punjab, Himachal Pradesh, Jammu & Kashmir, Rajasthan and North Eastern State for work.

Around 50,000 workmen migrate every year from Orissa to different states and after December and come back by May-June every year.

(3) *State of the absorbing employment capacity of the Urban Areas vis-a-vis the Urbanisation*

The scope of employment offered by Government organisations and industries in Private Sector is very limited.

12. TRANSPORT : *Available means of Transport*

The inter-city link between all the 108 towns are mainly operated by bus services.

In 6 big cities have both railway and bus service facilities.

18 towns have both railways and bus service facilities. Transport system in almost all towns are operated by manual process.

In 3 big cities namely, Cuttack, Bhubaneswar and Rourkela and two small towns Bolangir and Bargarh manually driven conveyance are the main means of transport.

City Transport System

Cycle rickshaw is the chief means of intra-city conveyance in Orissa.

Except 3 big cities namely Rourkela, Bhubaneswar and Cuttack and two small towns namely Bargarh and Balangir which have town bus facilities. Manually driven conveyances are the main means of transport in all the towns of Orissa.

Auto Rickshaw and Tempo services operate in Cuttack and Rourkela.

Present Transport Requirement

As per 1981 Census decennial growth rate of 7 towns namely Bhubaneswar, Jaleswar, Dhenkanal, Anugul, Anandpur, Malkangiri, Jharsuguda and Rourkela is above 80%. Bhubaneswar, Anandpur, Malkangiri, Jharsuguda and Rourkela civil township have 100% growth rate. Rourkela is having small conveyance facilities like auto-rickshaw and tempo services for its intra-city transport.

The rickshaw operators have a monopoly of passenger traffic in intra-city roads in cities like Cuttack and Bhubaneswar.

Cuttack city is mostly covered by narrow roads. It is desirable that more auto-rickshaws and tempos should run to meet the demand of the people. In view of the wide roads more number of twonbuses should run in both the cities of Bhubaneswar and Rourkela.

Transport Requirement in the context of Urbanisation

Passenger traffic and goods traffic is increasing day by day due to rapid urbanisation. Future requirements will certainly grow with subsequent growth of urban areas. Specific demand for transport facilities can be computed after exhaustive study.

Road Condition & Shortage facilities

The intra-city road condition in all the towns of Orissa except Bhubaneswar and Rourkela are not good.

Cuttack, Puri and Sambalpur have the most congested roads which are unsuitable for mechanical transport operation.

None of the towns except Cuttack & Rourkela have adequate terminal and storage facilities.

Difficulties faced by the Transporters

As far as Transport Administration is concerned there is no bottleneck for issue of licenses and renewal of the same and plying of vehicles in Orissa. The Bankers and Financial Corporations are financially operators for purchase of vehicles very liberally.

13. TOURISM

- (1) (i) Existing State of tourist centres in the State.

There are 148 centres in Orissa. 16 are in urban area such as Puri, Bhubaneswar, Konark, Cuttack, Jajpur, Town, Chandipur, Remuna, Talcher, Rourkela, Sambalpur, Hirakud, Sonepur, Patnagarh, Sunabeda, Gopalpur & Chilika.

- (ii) Its relation with trends in urbanisation

Since the centres are located in the urban areas and urban population is growing fast, infrastructural facilities should be provided to the tourist as well as people, providing drainage system, public toilet, bathing complexes and drinking water facilities. The Urban Areas should be properly planned to attract more tourists to the Centres.

(2) Infrastructural Facilities

(Statement Enclosed)—Annexure-III

(3) Development of Tourism alongwith Urbanisation

Development of urban areas will definitely develop the tourist centres.

Adequate infrastructural facilities like accommodation, transport, water and power supply, local transport, restaurants and other tourist facilities will have to be created in urban areas to attract tourists. This would indirectly improve our economic problems and generate more employment.

N. B :—

I.B. : Inspection Bungalow

G.H. : Guest House

C.H. : Circuit House

H.R. : Hotel Report

D.V. : Day Visitor

H.H. : Holiday Homss.

14. INDUSTRIES

1. Industrial Profile Etc.

Prior to Independence, inspite of richness in natural resources, the economy of the State was totally agricultural and there was no scope for development of industry due to lack of power, financial resources, entrepreneurship and trained personnel. Inflow of power was possible in 1950s after commissioning of Hirakud Multipurpose Project and Machkund Hydro-Electric Project. Following the

same and introduction of Five Year Plans, the Industrial Development Corporation was established in 1962 as the State agency to establish industry. Over the years, other promotional agencies like Industrial Promotion and Investment Corporation of Orissa Ltd. (IPICOL), Orissa Small Industries Corporation Ltd. (OSIC), Industrial Development Corporation of Orissa Ltd. (IDCO), Orissa State Electronic Development Corporation (ELCO) etc. were established and steps were also taken to accelerate technical education and spread entrepreneurship. The overall effect till the end of 1986-87 has been establishment of 180 large and medium industries, 29,526 small scale industrial units (SSI) and 6.25 lakh artisan units in State sectors and 9 large and medium units in the Central Sectors. But the richness of natural resources and the infrastructure now available have the potential for a higher leap in industrialisation. The State has only 6 cities and the largest among them viz., Cuttack has a population of only 3.26 lakhs, *Prima facie* therefore it would be seen that industrialisation has not clashed with growth of cities as the stage is one of under-industrialisation.

1.2 The approximate percentage of different types of industry in large and medium sector and in SSI sector are as follows:

Sl. No.	Type of Industry	Large & medium %	S.S.I. Units %
1	2	3	4
1.	Agro-forest	18.18	34.40
2.	Chemical	19.59	7.60
3.	Engineering	18.18	12.60
4.	Electrical & Electronics	2.72	1.18
5.	Metallurgical	16.60	—
6.	Textiles	5.55	11.90
7.	Marine	3.38	4.64
8.	Glass & Ceramics	0.55	10.08
9.	Livestock & Leather	—	0.90
10.	Hotel	15.25	—
11.	Miscellaneous & Servicing	—	16.70

In the Central sector the units are mainly metallurges, engineering and chemical.

1.3 The bulk of the industrial units are in SSI sector i.e. units where investment in plant & machinery is not more than Rs. 35.00 lakh. In the large and medium sector 150 units or say about 83% are in medium sector where the cost of the project does not exceed Rs. 5.00 crores. The remaining 30 units or about 17% are in large sector where the cost exceeds Rs. 5.00 crores. The artisan units are mostly household industries. In the Central sector, out of 9 units, 4 units are in medium sector and the remaining 5 units are large units.

1.4 The contribution of manufacturing industries to the domestic product of the State for the year 1985-86 at current prices was Rs. 379.39 crores or about 7%. This excludes product of artisan units which are not amenable to easy statistical compilation.

1.5 Excepting Bhubaneswar which will be primarily developed as a pollution free electronic soft-ware city, there is no other pre-condition regarding specific location of industrial units. The location is decided taking into consideration various factors like communication, power, proximity to raw-material and marketing complexes, availability of essential services and amenities for workers and above all, the recognised financial parameters like internal rate of return, pay back period etc. The State Government provides a maximum subsidy of Rs. 10.00 lakh for installation of anti-pollution measures in all areas to prevent pollution.

2. Discussion on Industrial Location etc.

In keeping with the national strategy of dispersal of industries, the general policy is to encourage even dispersal of industries in all areas with preference for rural and backward areas where there are no cities.

2.2 Admittedly the infrastructure availability in cities are relatively better than suburban areas. Therefore, in case of SSI units, there is a tendency to locate the units near urban areas. But in keeping with the policy of dispersal of industries, since 1960 Govt. of Orissa are developing industrial estates/areas/growth centres in non-city areas for location of SSI and medium industries. These areas are developed taking into consideration availability of land, social infrastructure for education of children and communication etc. In these areas either sheds or developed land with infrastructure facilities, like road, power and water are made available to the entrepreneurs by sale/hire-purchase as the case may be. So far 53 industrial estates/areas/growth centres have been developed in all 13 districts of the State.

Large industries are however, located on the basis of economics of the unit and in some cases as for example, Rourkela Steel Plant, urban areas grow around such units.

2.3 In the context of Orissa, urban areas are not necessarily lucrative sources of availability of raw-material. The large industrial units are generally located near sources of raw-material subject to feasibility. However, this is not always so in case of SSI units. For easy availability of raw-materials to SSI units, the State Government have a Corporation namely Orissa Small Industries Corporation Ltd. (OSIC) whose primary function is to supply raw-materials to SSI units. This Corporation has 10 branches through out the State to provide raw-materials to SSI units. This facility acts as a disincentive for location of SSI units only in the urban areas.

2.4 The State being predominantly agricultural there is always available surplus man-power in agriculture

for diversion to industrial sector. In fact, at the present stage of development of the State, the scope of availability of man-power in suburban areas is greater than in urban areas. For development of technical man-power, Industrial Training Institute (ITI) have been opened in all the districts of Orissa. Besides, two such Institutes have been opened for exclusively Women also. In addition to the ITIS, the State has 4 Engineering Colleges, 11 Polytechnics for Men and 3 Polytechnics for Women. Trained man power are thus likely to be dispersed through-out the State.

3. Incentives for Dispersal of Industries etc.

The policy of the Govt. of India as well as the State Govt. has been to provide incentives for establishment of industries in rural and backward areas. Nearly 88% of the population live in rural area which are industrially backward. In Orissa out of 13 districts, 8 districts viz. Balasore, Bolangir, Phulbani, Kalahandi, Konjhar, Mayurbhanj, Dhenkanal, Koraput are notified as backward areas out of which the first 3 districts are "No Industry Districts". The State Government in its Industrial Policy Resolution-1986 have also extended facilities of "No Industry District" to Kalahandi and "Backward district" to Ganjam district. The facilities extended to backward areas include over and above, the normal facilities for all areas, additional subsidy, concessional finance, development of industrial estates/areas/growth centres and additional subsidy for Scheduled Caste and Scheduled Tribe entrepreneurs.

3.2 Industrial estates/areas/growth centres are developed in backward areas to facilitate setting up of industries. Out of 53 industrial estates/areas/growth centres, 29 have been set up in backward areas including Ganjam District. Besides in rural areas, land is made available to industrial units at Rs. 5,000/- per acre whereas, in case of developed urban areas, the rate per acre varies from Rs. 10,000/- to Rs. 50,000/-.

3.3 To encourage location of industry in rural areas, capital investment subsidy varying from 15% to 25% is paid in these areas whereas in other cases, it is only 10%. Concessional finance in backward areas is available at a rate of interest of 12.5% whereas, for other areas it is 14%. About 37% of the total population of the State belong to Sch. Caste and Sch. Tribe and are mostly concentrated in backward districts. 5% extra additional capital investment subsidy is paid to Sch. Caste and Sch. Tribe entrepreneurs. Besides other incentives as envisaged in the Industrial Policy Resolution-1986 of the State, like Sales Tax exemption, incentives for anti-pollution measures, incentive for generator sets and captive power plant, concession on power, hire purchase of industrial shed, subsidy for preparation of feasibility report, subsidy for technical know-how fee, exemption of Octroi Duty, exemption of registration and stamp duty etc. are also allowed in these areas.

3.4. Infrastructure facilities provided in these areas have already been mentioned earlier.

3.5 As mentioned earlier, ITIs and Polytechnics have been opened in all areas to provide necessary manpower.

Problems of Industrialisation

At the current state of development, the State is facing the problem under industrialisation and, no serious problem excepting occasional labour problems are faced due to industrialisation.

5. Industrial Growth Pattern in 2001—2025

The State has adopted a dynamic and progressive policy of industrial development from time to time and this policy will continue with due regard to environmental and ecological balance, employment, updated technology and unabated growth. In pursuance of these objectives, functional industrial areas, development of industries based on available entrepreneurship, raw-materials like iron and steel, electronic industries, consumer durables, engineering, marine and drugs and pharmaceuticals are likely to take place in the 21st century.

5.2 It has been proposed to promote ancillary and down stream industries for major industrial projects in the State in the public joint and private sectors. Process of identification of some of the down stream and ancillary industries out of the by-products of NALCO, Paradeep Phosphates etc. has already been undertaken by IPICOL and activities in this direction might multiply with the advent of new mother industries which are likely to come up at the beginning of 21st century.

5.3 The programme enumerated above are likely to generate employment for urban and rural mass as the industrial activity will multiply in rural areas by the beginning of the next century.

5.4 Reconnaissance of industrial areas has been done only in a limited manner for estates and growth centres as mentioned above. It may however, be said that in keeping with the present policy, in coming years, dispersal of industries will be more in rural and backward areas.

5.5 Government intend to provide low cost industrial housing through IDCO and other agencies by taking help of institutional finance.

15. REVENUE & LAND RECORDS

State of ownership of Urban Land *Municipal*

Urban area according to Orissa Government Land Settlement Rules, 1983 means an area constituted into a Municipality or a Notified area under the Orissa Municipal Act 1950 and includes such other areas having urban characteristics and notified u/s 2(h) of the OGLS Rules.

State (Nazul, Non-Nazul)

Nazul lands are mostly urban lands and managed by Government direct. Such lands are leased out as homestead and for purposes ancillary thereto.

Area under illegal occupation

About 3,24,000 acres of Government land are under unauthorised occupation in the State by the end of 1986.

Maintenance of land records

Maintenance of land records is done under the Orissa Survey and settlement Act and Rules through the Tahasildars.

Land titles, registrations and transfers

In urban areas there are lease-holds as well as free-holds, lease deed is required to be registered in case of lease hold for the purposes of right title and interest. In case of free-holds right, title and interest is derived from the Sthaniban status enshrined in the record-of-rights such rights are permanent, heritable and transferrable. Transfer of lease hold is subject to permission by the lessor. Free holds are not fettered with any such restriction.

Problems of Land Acquisition

Land acquisition procedure is time consuming. About 80% of the cost of land acquisition is required to be deposited with the Land Acquisition Officer under Section-6 of the Act. The awards of compensation are opened retrospectively thereby affecting very badly the financial arrangement. One such example is the Sikharpur housing accommodation Scheme in Cuttack city executed by the Cuttack Development Authority.

The recommendations in the State Housing Minister's Conference at Srinagar needs serious consideration. They are :

- (a) Land Acquisition proceedings should not be opened retrospectively.
- (b) They should be beyond the purview of the civil Court.
- (c) The Divisional Commissioner or a Tribunal can be declared as the Competent Authority for deciding all disputes and claims.
- (d) Government guarantee or mortgage of immovable properties of the acquiring agencies can be considered as sufficient security for acquiring land in the public interest.

Implementation of the Urban Land *(Ceiling and Regulation Act) 1976*

In Orissa the Act has been extended only to Cuttack Urban Agglomeration which is a 'D' category town.

* In the initial stage 571 returns were filed voluntarily. 115 *Suo-motu* cases have been also started. 659 returns have been scrutinised by the Competent Authority and are under different stages of operation.

* Although 110,383 acres of land have been acquired u/s 10(3). Ac. 73,012 of land have

been taken possession of. Ac. 47.229 acres of land have been distributed among various agencies for construction of houses and staff quarters.

Ongoing Schemes of the Govt. for providing land for urbanisation programme.

- * Orissa Govt. Land Settlement Act provides for reservation of house-sites for the poor class people having annual family income of less than Rs. 7200/-.
- * In case of allotment of land for housing for E.W.S. Slum-dwellers and L.I.C. categories in favour of Improvement Trusts/Special Planning Authorities/Urban Local Bodies/Orissa State Housing Board concession in land value is being allowed.
- * Land is also allotted in their favour for remunerative schemes on payment of 10% of the Salami at the time of transfer of land in their favour and the balance 90% within 3 years of the transfer failing which they should pay interest on the balance amount as would be determined by Government.
- * The Development authorities are not required to pay premium in respect of land allotted to them and required for public utility services such as laying of roads, site for schools, colleges, hospitals, parks, play ground, community centres and the like.
- * The Development Authorities shall however pay premium in respect of Govt. land allotted to them and required for use as house sites and other commercial purposes with a moratorium of three years and then in 5 annual instalments from the fourth year. Further moratorium of 2 years can be allowed on payment of interest at 9% per annum.
- * In case of transfer of land to Bhubaneswar Development Authority for house sites and other commercial purposes within Bhubaneswar Municipal area one-tenth of the premium will be paid at the time of execution of the lease deed and the balance premium will be paid in three annual equal instalments, payment of which shall commence from the date of expiry of two years from the date of execution of lease land.

Land needs for urbanisation in 2001—2005

Not assessed.

16. SUGGESTIONS FOR CONSIDERATION BY THE COMMISSION

- (a) *Formulation of National Perspective Plan covering all the human settlements on the basis of hierarchical system starting from the growth nodal level to the National level.*

Such plan should identify the functions to be performed by each level of settlement and the required facilities to perform such functions should be identified and provided in a phased manner.

- (b) *Special Resource allocation not only for four National Cities, but also for the State Capitals and such other Urban Centres which serve as service towns for the National cities.*

Pumping resources to the National City should not be at the cost of other towns in the vicinity which in many ways help and serve the parent city. As per example, Balasore is a district which was identified as a 'No Industry District' and as such those industries which would have gone to Calcutta and added to its problem have been diverted to Balasore and thereby helping the interests of Calcutta. Similarly the State Capitals in the hinter-land of Calcutta like Bhubaneswar helps in reducing the pressure on Calcutta. It is, therefore, suggested that certain special resource allocations should be made for the State Capitals as well as those towns which lie within the immediate influence zone of the National Cities.

- (c) *Reducing subsidies on infrastructural developments and curbing investments in employment generating ventures in big cities.*

Problems prevailing in various metropolises are mainly due to their attractions in providing jobs and facilities which result, in the rural poor migrating to the urban centres. There is need for curbing further increase in employment opportunities and also in making infrastructures un-attractive. It would be proper to lay more emphasis on development of small and medium towns so that the rural poor can go to the nearby towns rather than going to the far off metropolitan towns.

- (d) *Recognising slum dwellers as an essential input and reserving land, near work centre, for their temporary stay on rental basis still permanent rehabilitation.*

Urban poverty is an extension of rural poverty. Till rural economy improves to an extent as to make all facilities available locally, the rural poor will continue to migrate to urban centres. These immigrants perform an important function in urban centres. They provide services and constitute bulk of labour force especially in constructional activities. They occupy mostly Government lands wherever available, preferably near work centres. The objective should be to contain them at certain pre-identified locations rather than allowing them to put their hutments anywhere and every-where they like. It is, therefore, suggested that land should be reserved for them near work centres for their temporary stay on rental basis till they are permanently rehabilitated either by providing service and sites or housing.

- (e) *Making available institutional finance to the urban poor for self employment.*

There are a number of schemes for extending financial help to the rural poor for self employment. Similar approach is required for the urban poor. As such, schemes may be formulated for providing financial assistance to the urban poor for self employment and for uplifting their economy.

(1) *Establishment of housing and infrastructural development financing institution at the State level*

At the national level HUDCO is making institutional finance available for urban development scheme. Establishment of a national Infrastructural Development Corporation is in the pipe line. Constitution of a National Housing Bank is also contemplated. Some State Governments have established financial institution at the State level to fund urban development projects. Kerala and Madhya Pradesh are examples. It is suggested that the Commission recommend establishment of similar institution at the State level with the financial assistance of Central Government.

(g) *Increase in rehabilitation assistance and facilities for training and employment for people uprooted consequent upon establishment of large scale industries and projects*

Consequent upon establishment of industries, rehabilitation of people uprooted, is taken up. Rehabilitation assistance is mostly in the form of providing a house site and some construction assistance. Invariably majority of the people uprooted are agriculturists and rehabilitation programme does not envisage for giving them agricultural land. They are required to change their occupation from agriculture to non-agriculture for which they do not have the skill. As such a change in the policy of rehabilitation assistance is required. Such assistance should consist of the following :

- (a) A service and site in the rehabilitation township for constructing a house,
- (b) A construction grant of Rs. 9,000/- for economically weaker sections (on the lines of Indira Awas Yojana).
- (c) Provision of job to atleast one member of the house-hold in the industry and provision of training facilities to make them suitable for the job.

(h) *Central Assistance for Urban Water Supply*

There is a centrally sponsored scheme for providing water supply in the rural areas. Necessity is felt for initiating a central scheme for providing water supply in the urban area especially in small and medium towns. The urban scene in most of the small and medium towns in Orissa exhibit rural characteristics. The inhabitants in their culture and style of life are practically rural. As such, the same norms of central assistance is required to be extended for providing water supply in such urban areas. The concerned Urban Local Bodies are not financially in a position to meet the cost.

(i) *Need for central assistance for development of tourist pilgrim centres.*

Konark is known as one of the World's heritage. Thousands of foreign tourists visit Puri, Konark and Bhubaneswar (the golden triangle) every year. Lot of foreign exchange is earned. Unfortunately for lack of

resources, infrastructural development cannot be undertaken on an adequate scale. It is, therefore suggested that part of the foreign exchange earnings may be made available to the State Government for undertaking infrastructural development in towns like Puri, Gopaipur, Bhubaneswar and Konark etc.

(j) *Resources for preparation of development Plans for newly emerging townships.*

Establishment of large scale industries, increased mining activities and establishment of power generation plant etc. create lot of activities in the vicinity. Damanjodi and Talcher-Angul complexes are examples. These areas are growing at a faster rate and unless the development are channalised on planned lines, events may overtake us. Due to lack of financial resources the State is not in a position to provide funds for preparation of development plans for such newly emerging urban centres. During the 3rd and 4th plans the Centre was providing 100% central assistance for establishing machinery for preparation of development plan. It is felt that such a scheme should be reintroduced for preparation of development plans for newly emerging industrial areas.

(k) *Making agencies putting up large scale industries and projects responsible to reserve certain percentage of land meant for industrial housing exclusively for the supporting population.*

It is the common experience that in the vicinity of large scale projects unplanned townships mostly in the form of sub-standard structures, without adequate facilities, emerge. These are mostly inhabited by supporting population which provide services to the workers of the project/industries. The industrial undertakings do not bother for providing required housing and amenities to the supporting population though they are essential inputs. It is suggested that the concerned agencies may be made responsible to reserve certain percentage of land in their project areas exclusively for the supporting population and the land so reserved should be made over to the Planning Authorities or the Urban Local Bodies for utilisation to provide house sites, housing and other amenities to the supporting population.

(1) *Evolving a system by which large scale industries in new areas should contribute partly towards the cost of providing infrastructure to the supporting population.*

In addition to earmarking land for the supporting population, necessity is felt that the concerned industries should contribute towards cost of providing infrastructure in the area so reserved. The said contribution may be added to the project cost and consideration may be given for full tax benefit for such investment.

(m) *Continuation of Centrally Sponsored IDSMT Scheme with increased coverage.*

During the 6th Plan period the Government of India had allotted 6 towns to Orissa for execution of IDSMT Schemes. Project reports for 8 towns were submitted to the Central Government, out of which 6 projects

namely—Sambalpur, Puri, Balasore, Rourkela (CT), Jeypore and Dhenkanal were approved. During 7th Plan however, only 3 towns have been allotted and projects of Baripada, Balasore and Keonjhar have been approved. Project reports of Bhawanipatna, Athagarh, Khurda and Jagatsinghpur which were forwarded to Government of India have not yet been cleared on account of reduced allocation during the 7th Plan. This scheme is a popular one and it has been successfully implemented in Orissa. It is suggested that the scheme should be continued during the future plan periods with increased coverage.

(n) *Need for increase in the IDSMT outlay on account of depleted value of rupee*

The monetary ceiling limit of IDSMT scheme was Rs. 80.00 lakhs per town. This has been recently increased to Rs. 104.00 lakhs with the inclusion of low cost sanitation component. Over the years the cost of construction has gone up on account of inflation. It is, therefore, suggested that the ceiling, on outlay should be suitably increased to compensate for the depleted value of the rupee.

(o) *Preferentially increased allocation for IDSMT schemes, partly as grants for the States having per capita income less than national average*

Under the IDSMT Scheme 50% of the total outlay is made available to the implementing agencies as loan. The economic returns from remunerative schemes are not uniform throughout the country. In the economically backward states the returns are less than economically forward States. It is, therefore, suggested that these states whose per capita income is less than the national average may be given increased allocation, partly as grant.

(p) *Necessity for providing central assistance for maintenance of assets created under the IDSMT Scheme*

Under the IDSMT Scheme remunerative as well as non-remunerative projects are being implemented. The implementing agencies find it difficult to maintain the assets created, especially those under non-remunerative sector like roads, drains etc. It is, therefore, suggested that some central assistance may be made available for maintenance of assets created under this Scheme.

(q) *Need for central assistance for establishment of Urban and Regional Information System (URIS) to improve the data base*

The Ministry of Urban Development, Government of India has been pressing upon the State Government to create a cell under the style of "Urban and Regional Information System" (URIS) in order to collect, store and update all types of data on human settlements. Due to financial constraints this cell has not yet been created. It is suggested that Central assistance may be made available to the State Government to meet the expenditure towards creation of such a cell.

(r) *Evolving a national urban land policy*

Urban lands are getting scarce. The stock of available Govt. land in urban areas is getting depleted gradually on account of its use for various schemes. Lack of resources do not permit acquisition of land for replenishment of the lost stock. Necessity is felt to formulate an urban land policy at the national level to meet the future requirement of urban land including finance, utilisation etc.

DISTRIBUTION OF URBAN POPULATION OF ORISSA TOWNS DURING 1981-2001

Class	No. of towns in 1981	Population (% of urban population.	Growth rate 71-81	Distribution of net increase in total urban population	No. of towns	Population (% of urban population	Growth rate	Distribution of net increase in total urban population	No. of towns	Population (% of urban population	Growth rate 1991-2001	Distribution of net increase in total urban population
1	2	3	4	5	6	7	8	9	10	11	12	13
Cities												
Class—I	6	12.93 (41.64)	133.23	58.60	8	19.82 (38.68)	53.29	34.14	15	37.28 (47.12)	88.09	47.59
Medium towns	34	10.34 (34.58)	46.72	27.12	51	21.19 (41.36)	97.30	51.78	59	25.33 (32.01)	19.54	20.83
Class—II	8	3.96 (12.76)	169.41	19.78	15	10.58 (20.65)	167.17	32.80	20	13.15 (16.62)	24.29	19.92
Class—III	26	6.78 (21.82)	15.81	7.34	36	10.61 (20.71)	57.49	18.98	39	12.18 (15.39)	14.80	7.91
Small Towns	68	70.39 (33.77)	14.52	14.27	93	10.23 (19.96)	38.43	14.08	147	16.51 (20.87)	61.39	31.58
Class—IV	40	3.29 (17.02)	67.29	16.87	44	6.21 (12.12)	171.39	3.87	82	11.22 (14.18)	80.68	25.20
Class—V	25	1.96 (-) (6.31)	16.32	(-)3.03	49	4.02 (7.84)	101.00	10.21	65	5.29 (6.69)	31.59	6.38
Class—VI	3	0.14 (0.44)	65.11	0.43	—	—	—	—	—	—	—	—
Orissa Urban	108	31.06	68.29	100.00	152	51.24 (16.19)	64.76	100.00	221	74.12 (21.55)	54.41	100.00
Orissa Total		263.70	20.16			316.44	20.00			367.07	16.00	

REQUIREMENT OF FUNDS FOR URBAN DEVELOPMENT IN ORISSA, 2001

Name of the Scheme		Proposed outlay	
		1991	2001
1	2	3	4
			(Rs. in crores)
1.	Rural Water Supply	398.12	379.00
	For installation of new tube-wells and piped water supply		
2.	Urban Water Supply	83.07	38.25
	For installation of new tube-wells and for piped water supply		
3.	Rural Sanitation	105.00	140.00
	(a) Health Education		
	(b) Sanitary latrine		
	(c) Garbage disposal		
	(d) Waste water drainage		
4.	Urban Sanitation	76.09	1480.84
	for all towns/cities		
5.	Water supply and sewerage work for Capital Administration	15.00	25.00
	For internal water and sewerage line		
6.	Shelter and Housing	555.90	878.10
	(a) Urban Housing	396.90	705.60
	(b) Rural Housing	159.00	172.50
7.	Town Planning and Urban Development	127.77	435.90
	(a) Town Planning	3.51	10.40
	(b) Grants to Dev. Authority/Improvement Trusts/SPAs.	32.00	90.00
	(c) Integrated Development of Small & Medium towns	20.25	60.00
	(d) State Urban Development Finance Corporation	5.00	10.00
	(e) Environmental Improvement of slums	10.00	30.00
	(f) Remunerative grants to Urban Local Bodies	5.00	18.00
	(g) Non-remunerative grants to Urban Local Bodies	1.00	3.50
	(h) Road Improvement	2.50	7.00
	(i) Municipal Engg. Cell	25.00	108.00
	(j) Capital Administration Projects	23.51	93.00
	Grand Total :	1360.95	3377.09

STATEMENT
2. INFRASTRUCTURAL FACILITIES

Sl. No.	Name of the town	Tourist Centre/ Pilgrim centre.	Hotel	Dharma- sala	I.B.s/CH G.H.	H.H.	Travel & trans- port arrange- ment	No. of Tourist arrival		
1	2	3	4	5	6	7	8	9	10	11
1. Puri		Tourist as well as Pilgrim centre	76	9	2 IB 1 CH 1 Mun. G.H.	150	19 23	294663	12225	N.R.
2. Bhubaneswar		Do.	42	4	9 IB 1 GH	—	—	162931	10174	Do.
3. Konark		Tourist Centre	1 Panthnivas 1 travelling lodge 4 Codging	—	9	—	—	1020742	9174	D.V.
4. Kendrapara		Pilgrim Centre	—	1	4 IB	—	—	80553	—	Do.
5. Paradeep		Tourist Centre	1	—	1 PWD IB 2 G. House	—	—	26820	40	Do.
6. Cuttack		Do.	34	2	1 IB 2 CH	—	—	106044	160	N.R.
7. Jaipur town		Pilgrim Centre	4	2	1 IB	—	—	63470	—	D.V.
8. Banki		Do.	—	—	1 PWD IB 1 IB (Revenue)	—	—	32045	—	Do.
9. Talcher		Tourist Centre	3	—	2 IB 3 GH	—	—	28164	20	Do.
10. Chandipur		Tourist Centre	5	—	2 IBs.	—	—	14698	20	D.V.
11. Remuna		Pil. Centre	11	1	2 IBs. 1 CH	—	—	149010	03	Do.
12. Sambalpur		Do.	14	1	3 IBs 1 CH	—	—	104740	59	Do.
13. Hirakud		Tourist Centre	—	—	1 GH 2 IBs.	—	—	107970	26	Do.
14. Rourkela		Do.	15	2	10 IBs. GH	—	—	75203	22	H.R.
15. Sonepur		Pilgrim Centre	—	1	1 PWD IB	—	—	37976	17	D.V.
16. Patnagarh		Do.	—	1	1 PWD IB	—	—	28786	02	Do.
17. Sunabeda		Tourist Centre	—	—	2 GH	—	—	59706	30	Do.
18. Gopalpur		Do.	10	—	2 IBs 1 GH	—	—	117576	736	Do.
19. Chilika		Do.	2 Panthanivas 2 Hotels	—	2 IBs	—	—	82832	280	Do.

PUNJAB

CHIEF CO-ORDINATOR AND PLANNER DEPARTMENT OF TOWN & COUNTRY PLANNING

December, 1986

PREFACE

Punjab with a population of 16.66 million (1981 census) covers a total area of 50,376 sq. kms. comprising 12,162 villages and 134 towns. It is predominantly an agricultural State and is striving to mark its position on the Industrial Map of India. The process of rapid urbanisation during last 3 decades 1951—81 was confined to agricultural marketing and industry. The urban population in the State grew by 44.5% during the 1971—81 decade in comparison with national figure of 23% and this trend is likely to continue in the coming years. This urban growth has been a natural consequence of various socio-economic factors and is mainly concentrated in the fast growing central corridor of Ludhiana-Amritsar.

2. Since State's predominant economic base is agriculture, the market towns and the industrial towns in the central corridor along the major transport routes have shown tremendous growth resulting in heavy demand of land for residential, commercial and industrial activities. Due to economic constraints, the local agencies have not been able to meet the growing demand for urban land which has led to mushroom growth of industries along the highways and un-

authorised residential colonies without basic services and amenities. Life and living conditions of people are fast deteriorating. Local bodies are faced with a difficult challenge to meet the infrastructural requirements of the new areas being urbanised besides meeting the existing short-falls. Meagre financial resources of local bodies call for adequate State and Central assistance in order to provide the basic civic amenities and healthier living urban environment for the people.

3. As the National Commission on Urbanisation set up by the Government of India under the chairmanship of Charles Correa would be examining the problems of urbanisation in the various regions of the country for evolving an Integrated Policy for Urban Development, a comprehensive memorandum giving perspective of urbanisation in the State of Punjab has been prepared. The memorandum highlights the existing situation, the growth perspective and the State Government's views on urbanisation and urban development. It is hoped that the memorandum would be useful to the Commission while framing the urbanisation policies for the different regions in the country.

Chandigarh the,
December 12, 1986.

HARDIAL SINGH, IAS,
Secretary to Govt. Punjab,
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PUNJAB : URBANISATION PERSPECTIVE

1. PHYSICAL SETTING OF PUNJAB

1.1 Location :

The Punjab is in North India and occupies portion of the Sutlej-Ganga Plain between river Ghaggar and Ravi. It is bounded at its Northern next point by Jammu & Kashmir State, in the N.E. by Himachal Pradesh, in the South-East by Haryana, in the South by Rajasthan, in the West and East-West by Pakistan. In latitude, the State extends between 29.30' N to 32.30' N and in terms of longitude, it extends from 74°E to 77°E. The State is divided in 12 administrative units (districts) i.e. Gurdaspur, Faridkot, Bathinda, Sangrur, Patiala, Ludhiana, Jalandhar, Kapurthala, Hoshiarpur, Ferozepur, Amritsar and Ropar.

1.2 Physiography :

The physical features of Punjab are not very much varied. Primarily, it is a plain extending from the Shivalik foot-hills in the east to the desert wastes of the great India desert, the Thar desert. The plain slopes gently south-west wards. The elevation varies from 275 metres in the North to 213 metres in the South and 176 metres near Fazilka in the South-West. The general monotony of the surface relief is broken by the valleys of the rivers—Sutlej, Beas and Ravi which drain atleast 1/4 of the total surface area in the North. The North-East, South-West running rivers divide the whole region in valleys and the interflunes. There are no hill features on vast water bodies except for the rivers in the interior. On the desert borders, the surface relief is dotted with sand dunes which in some places are upto 100 ft. in elevation. The river courses earmarked by broad valleys with extensive marshy areas that are separated from the interflunes by abandoned high river banks. In addition, a large number of seasonal hill torrents flow down from the Shivalik Hills region and got lost in the plain below spreading sand and gravel in their courses. The mighty seasonal stream Ghaggar flows on the Southern and Eastern borders of Punjab.

1.3 Climate :

The Punjab lies in the North-Western bank of the Indo-Gangetic Plain. Its climate is affected by its location viz-a-viz. the Himalayan ranges, the Thar desert and its distance from the sea. The Himalayas ranges in the east and the west of the region shut this region up from the free flow of major winds, as a result of that the temperatures in these regions are higher by 8° for their latitudes. Latitude-wise and longitude-wise Punjab is located in a transitional zone of climate.

Generally speaking Punjab's climate has two seasons. Monsoon character as found in the rest of the country but with variations in the intensity of rainfall and temperature. With the hotting up of the continental interior of Asian land mass the summer monsoon invades the continent and the Bay of Bengal and Arabian Sea branches of monsoon directed and

deflected by the Himalayas invade Punjab and give margin measures of rainfall and varies from 75 cm. in the foot hills to 20 cm. on the desert from July to September. In the winter the process of wind circulation is reversed where by the winds of the high pressure regions of Asia's Interior blow out causing dry and cold conditions in the Punjab. However, during winters, western disturbances in the form of cyclones cross from the west and give rainfall that varies in amount from 8" at Amritsar to 5" at Chandigarh. In between these major seasons area experience the seasonal climatic spans. From April to June is a period of dry summers with very high temperatures and very low rainfall and low atmospheric humidity. Between the rainy seasons from Sept. to Nov. is autumn with moderate temperature and low rainfall which is erratic. Between winter and the spell of dry summer is a short spring season from March to April with moderate temperatures and occasional rains from the western disturbances. The peculiar features of location and other factors produce a type of climate in Punjab that has great accentricity in a general monsoonal character.

1.4 Division into Three Zones :

On the basis of five criteria i.e. (a) Physiography (b) Existing Administrative boundaries (c) Present level of Physio-Economic Development (taking block as a basic Unit) (d) Potential of development (e) Influence zone of major centres. The State can be divided into following three broad zones :—

(i) NORTH ZONE :

It includes the sub-mountainous and backward areas in the North i.e. the whole of Hoshiarpur district, part of Gurdaspur district (Pathankot and Gurdaspur tehsils) including Sri Hargovindpur and Dera Baba Nanak blocks of Batala tehsil and part of Ropar district (Anandpur Sahib and part of Ropar tehsils). In this zone, the human settlements would vary in size from 500 to maximum of 3 lac population. This zone is devoid of sub-soil and potable water, agriculture and forests.

(ii) CENTRAL ZONE :

It is comparatively more urbanised and industrialised zone where not only 5 class-I cities are located but important infra-structural facilities of higher order such as Universities, major medical and engineering institutions, Radio and Television centres are located. This zone includes the whole of the districts of Amritsar, Jalandhar, Ludhiana, Kapurthala, Batala and Fatehgarh Churian blocks of Gurdaspur district and part of Sangrur district (some villages of Ahmedgarh and Malerkotla blocks), part of Patiala district (Sirhind Rajpura and Patiala tehsils) and part of Ropar district (tehsil Kharar). The human settlements vary in size from 1000 to a maximum of

10 lac population. This zone has abundance of sub-soil and potable water.

(iii) **SOUTH ZONE :**

This is predominantly an agricultural zone with low level of urbanisation and industrialization having semi-arid conditions and comprises of whole of the districts of Bathinda, Ferozepur, Faridkot and part of Sangrur district (Barnala, Sunam, Sangrur tehsils and Dhuri block including some villages of Ahmedgarh and Malerkotla blocks) and part of Patiala (Samana tehsils). The human settlements vary in size from 1500 to 3 lac population. This zone is dependent primarily on canal water both for irrigation and domestic purposes. The sub-soil water in the zone is injurious to health go it.

II. GROWTH OF POPULATION :

2.1 A Historical Perspective :

The Punjab State covers a total area of 50,376 Sq. Kms. comprising of 12,162 villages and 134 towns and had a population of 168 lac as per 1981-census. The population of Punjab at the beginning of the century was 75,44,790 persons which rose to 1,67,88,915 persons by 1981. Thus there has been a growth of 122.50% from 1901 to 1981. During the same period, the urban population of the State which is the beginning of the century was 9,34,766 (12.4%) spread in 76 towns, rose to 46,47,757 (27.7%) by 1981. Thus showing a growth rate of 397.21% from 1901 to 1981. During the same period, the number of towns went up from 76 in 1901 to 134 in 1981. Decadal variations in population since 1901 has been as under :—

Year	Total population		No. of towns	Urban Population		
	Persons in lacs	Decadal variations		Urban popu. in lacs	%age of total popu.	Decadal variation
1	2	3	4	5	6	7
1901	75.44	—	76	9.34	12.38	—13.0
1911	67.31	—10.78	62	8.13	12.07	—13.0
1921	71.52	+6.26	59	8.69	12.15	+16.92
1931	80.12	+12.02	66	11.68	14.58	+34.37
1941	96.00	+19.82	75	16.57	17.26	+41.85
1951	91.60	—4.58	112	19.89	21.71	+20.02
1961	111.35	+21.56	109	25.67	23.05	+29.06
1971	135.51	+21.70	108	32.16	23.73	+25.27
1981	167.88	+23.89	134	46.47	27.63	+44.51

The growth rate of urban population for 1971–81 is unprecedented 44.5%. A similar high growth rate of 47.85% was experienced during 1931–41 also.

2.2 Behaviour of Proportion and Number of Towns in each Class :

Class-I Towns/Cities :

As against a solitary city of Amritsar, in the beginning of the century, we now have as many as seven cities, three having been added only in 1981. The urban population living in cities has been consistently on the rise except during the decade 1941–51, when the country and State experienced the partition. The transition from 1931–41 saw an addition of 2 more cities and a phenomenal rise of population living in them from 265 thousands to 638 thousands. In terms of percentages, while 22.67% of the urban population lived in cities in 1931, the said percentage rose to 38.49 in 1941. By 1981, nearly 21.6 lakhs people i.e. 46.38% of urban population lived in these towns.

Class-II Towns :

Jalandhar and Patiala were the only two Class-II towns in the beginning of the present century. We now have ten urban settlements in the category of Class-II towns.

In 1911, Patiala lost its Class-II status to be relegated to Class-III and in its place Ferozepur ascended to Class-II status. In 1921, Ludhiana became a new entrant to this class. In 1931, Patiala re-entered this class after 20 years. In 1941, Jalandhar and Ludhiana ascended to the status of the city leaving once again only two towns viz. Ferozepur and Patiala Class-II status. In 1951, apparently on account of partition of the country Ferozepur was relegated to lower class while Batala entered Class-II. In 1961, Patiala ascended to the status of the city and four towns viz. Hoshiarpur, Bathinda, Pathankot and Ferozepur entered the Class-II statuses.

In 1971, witnessed the entry of other three towns viz. Moga, Aboher and Phagwara raising the number of towns in Class-I to 8, as the five Class-II towns of 1961 continued to stay in the same class.

1981, the status of Pathankot, Batala and Bhatinda was raised to that of a city. To the remaining five towns of this class other five were added as they ascended from lower class. The new enterant to Class-II status in 1981 are Malerkotla, Rajpura, Khanna, Muktsar and Kapurthala.

Reverting to the proportion of the urban population living in Class-II towns, the statement reveals that there was a consistent and substantial rise during every decade right from 1901 to 1931. The proportion fell sharply from 23.47% in 1931 to 9.19% in 1914 and to 7.73% in 1951. Thereafter once again picked up to 14.39% in 1981.

Class-III Towns

There were four towns viz. Ludhiana, Batala, Ferozepur and Malerkotla in this class in the beginning of the century. Their number rose to 6 in 1931 (in 30 yrs.) Since then the number of towns in this class has been rising to be 27 in 1981. The maximum number of towns (7) were added in decade 1931-41.

The proportion of urban population in this class of towns has remained almost stationary (and erratic in between) varying between 15.67% in 1901 to 20.24% in 1981 with a maximum at 28.11% (1961) and minimum at 13.29% (1931).

Class-IV Towns

There was not much of the change in the number of towns in this class in the first sixty years as 20 towns were recorded in 1961 as against 14 in 1901. From 1961 to 1971 the number rose from 20 to 31 to be 36 at 1981 census.

The proportion of urban population in this class has declined from 20.45% in 1901 to 11.28% in 1981. There were (during this era) two distinct period 1911-31 and 1961-71 when the proportion rose, though only mildly.

Class-V Towns

This class had 38 towns in 1901 and now in 1981, it has 40 towns. During the intervening period no particular trend is discernible. Further this is the only class which has shown a consistent and almost regular decline in urban proportion of population living in this class. This proportion fell from 27.47% in 1901 to 6.50% in 1981.

Class-VI Towns

This class had 17 towns in the beginning of the century but the number fell to a mere 5 in 1941. From 5 the number of towns jumped to 32 in 1951 and then fell in the successive decades to be 14 in 1981.

Though the proportion of urban population living in this class of towns fell from 6.06% in 1901 to 1.21% in 1981 the decline has not been as smooth as in the case of Class-V towns. In fact, there was a distinct rise in proportions during 1901-11 and 1941-51. None-the-less, if bold steps are not taken to improve economic base of these towns, this class seems more on the way to elimination than V.

III. POPULATION DISTRIBUTION IN PUNJAB

3.1 Area and Settlements

Punjab covers a total area of 50,376 Sq. kms. comprising of 12,162 villages. As per 1981-census, the State has a population of 168 lacs. The rural and urban distribution is as given below :—

No. of settlements		Popula- tion in millions	%age of total popula- tion
RURAL	12,162	12.04	72.32
URBAN	134	4.64	27.68

3.2 Extent of Urbanisation

The extent of urbanisation in Punjab i.e. 27.68% though higher than all India figure of 23.73% yet other states like Maharashtra, Tamil Nadu, Gujarat and Karnataka are much more urbanised as compared to Punjab. As against 23.73% population living in urban areas in 1971 census count (1981) has revealed an urban compositions of 27.68%. As against a decadal growth rate of 23.01 percent recorded for the state as a whole, urban areas returned a growth rate of 43.66% and the rural areas 16.59%. The corresponding decadal growth rates for 1961-71 for rural and urban areas were 20.63% and 25.27% respectively. Obviously, there has been a shift in the growth pattern of urban and rural population in the State. The urban growth has increased by 18.30% points and for rural areas, it declined by 4.04% points.

3.3 Distribution of Urban Population

The percentage distribution of urban population by class of towns according to 1981-census is :—

Class of towns	Population size	No. of towns	%age of urban po- pulation	
			1971	1981
Class-I	1,00,000 & above	7	40.62	46.40
Class-II	50,000— 99,999	9	15.68	13.28
Class-III	20,000— 49,999	28	21.74	21.31
Class-IV	10,000— 19,999	35	13.78	11.07
Class-V	5,000— 9,999	41	7.00	6.77
Class-VI	below— 5,000	14	1.18	1.22
Total		134		

3.4 The largest sized towns class-I, referred to as cities, account for 46.40% of the total urban population in the state as compared to 40.62% in 1971.

Location of industries and concentration of trade and commerce, which create potential for employment seems to be the main factors that continue to draw migrants. The decrease in the proportion of urban population in class-II towns (by 2.40% points) may be attributed to the fact that the three towns of Pathankot, Batala and Bathinda have qualified to be treated as a Class-I cities and this crossed the class.

The substantial decrease in the growth of Class-IV towns appears to be due to upgrading of the medium sized towns to higher class.

3.5 Population Distribution Zone-wise

The present population, the projected population and the proposed population in three different zones is the proposed population in three different zones is

S. No.	Zone	Urban Popu.		Projected popu. 2001	Proposed popu. 2001
		1971	1981		
1.	North-Eastern Zone	3.70 (11.5%)	4.68 (10.13%)	7.55 (7.74%)	9.61 +1.00 (10.68%)
2.	Central Zone	20.35 (63.5%)	29.38 (63.58%)	63.90 (65.54%)	59.42 (40.94%)
3.	Southern-Western Zone	8.02 (25.0%)	12.15 (26.29%)	26.05 (26.72%)	24.15 +3.32 For proposed new towns 27.74% (28.18%)
Total		32.07	46.21	97.50	97.50

IV. GROWTH OF URBAN POPULATION—TRENDS

4.1 Growth Perspective

Urban population of India increased from 62.44 millions in 1951 to 156.19 millions in 1981 indicating a growth rate of 3.10% per annum as compared to 2.15 percent growth rate of the total population in the country during the same period. Amongst the states in India, Punjab is fairly urbanised. The percentage of the urban population in the state was 23.01 in 1961, 23.7 in 1971 and 27.7 in 1981 as compared to the respective figures of 18.00, 19.09 and 23.07 for the country as a whole. The state ranked fifth in the country in terms of urbanisation as per 1961 census, sixth as per 1971 census and again fifth as per 1981 census. The states of Maharashtra, Tamil Nadu, Gujarat and Karnataka are more urbanised than Punjab. The rate of urbanisation in the State in the recent decade has been slightly above the national average whereas the national urban population during the decade 1971-81 increased by 23.73%. The urban population of Punjab state during the corresponding period increased by 43.7%.

4.2 As per 1981-census, the state had a population of 168 lac persons. This is expected to increase to 200 lacs by 1991 and 250 lacs by 2001. As per 1981-census 27.68% of the total population i.e. 46.47 lacs persons live in 134 urban settlements. It is estimated that the proportion of urban population would increase to 33.3% (66.60 lacs persons) in 1991, 39% (97.50 lacs persons) in 2001. The decennial growth of urban population from 1971-81 has been 43.66%. It is expected that this trend will continue and growth of urban population during 1981-91 and 1991-2001 will be 44.1% and 47.0% respectively. The annual increase of urban population will be 2.00 lacs persons during 1981-91 decade and 3.00 lacs persons during 1991-2001 decade. The number of settlements would, therefore, require to be doubled or alternatively, there will be two fold expansion of the existing cities and towns by 2001.

Population Projection at State Level :

National Growth rate 1971-81=24.75

State growth rate : 1971-81=23.01

S. No.	Decade	Total popu. in % lacs	State growth rate	Total urban popu. in lacs	Urban growth rate	Total rural popu. in lacs	Rural growth rate
1.	1971-81	166.00	23.01%	46.20	43.66%	110.00	16.59%
2.	1981-91	200.00	21.02%	66.06	44.01%	133.04	11.96%
3.	1991-2001	250.00	25.03%	97.50	47.00%	152.05	14.00%

The above table is analysis of the growth rate of urban and rural population in 1981 and in the subsequent decades of 1981-91 and 1991-2001. The outcome of this analysis reveals that the urban population shall be increased by 11.8% in 2001 i.e. from 27.7% in 1981 to 39.0% in 2001 which means the establishment of an additional more urban centres in 2001 against 134 urban centres in 1981. In this way, a befitting proportion of urban and rural work-

ing force shall be established for attaining and sustaining the balanced growth of development both in physical as well as in economic terms.

Punjab State	Year	Urban	Rural
	1981—census	27.68%	72.32%
	2001—projected	39.00%	61.00%

4.3 Growth of Population District-wise

As brought out in 4.1 the Pb. State has a urban population of 27.7%, but this population is not evenly distributed in all the districts. The distribution of urban population district-wise is given in the table below :—

PERCENT OF URBAN POPULATION TO TOTAL POPULATION DISTRICT-WISE.

District	1951	1961	1971	1981
Gurdaspur .	18.91	19.27	20.26	21.72
Amritsar .	29.05	30.25	29.17	32.92
Kapurthala .	20.43	21.79	23.21	29.70
Jalandhar .	26.04	28.14	30.06	35.41
Hoshiarpur .	10.92	10.86	12.09	14.60
Rup Nagar .	7.97	17.39	15.04	21.98
Ludhiana .	24.46	28.84	34.81	42.10
Ferozepur .	21.84	23.68	22.16	22.51
Faridkot .	15.54	19.73	19.75	24.10
Bathinda .	15.21	17.78	17.78	22.82
Sangrur .	17.83	19.28	20.31	22.91
Patiala .	28.27	26.23	26.12	29.63
PUNJAB .	21.01	22.92	23.75	27.68

SOURCE : STATISTICAL : ABSTRACT OF PUNJAB

DECADAL GROWTH RATES OF URBAN POPULATION BY SIZE CLASS 1951-88

Decade/class	I	II	III	IV	V	VI
1951—61 .	29.74	24.06	39.46	24.46	25.38	20.42
1961—71 .	32.54	29.73	13.94	27.06	23.55	1.67
1971—81 .	40.46	35.56	48.89	27.64	38.35	8.46

SOURCE : CENSUS OF INDIA : PUNJAB : 1951, 1961, 1971 & 1981.

The table shows growth of Class-I and Class-III towns in 1951-81, was higher than the average growth rate of urban population i.e. 29.06 percent. The exceptionally higher growth rate of class-III urban centres can be explained by the fact that three new townships were established in this category by the Government i.e. Rajpura townships and Nangal group of towns to accommodate the refugee from Pakistan and necessary work force for Bhakra Dam. Malout town classified for the first time was also added to this class.

4.6 In 1961-71, class-I urban centres registered the highest growth rate. Other categories of the towns with growth rate higher than the average urban growth rate were Class-I and Class IV. There was industrial increase in these two classes during this period. Moreover, a new town of Talwara was added during this time to Class-I.

Class-III towns, where growth rate was highest during the previous decade, experienced a very low growth rate i.e. 13.94% in this period because the tempo of setting up of emergence of new towns like in 1951-61 was not there during the decade and secondly many contonment and other service towns of this class lost not out migration. In many class-VI towns there was not out flow of people to other areas.

4.4 From the above table, it is observed that five districts i.e. Amritsar, Patiala, Jalandhar, Ludhiana and Ferozepur had higher proportion of urban population than the State average in 1951. In 1981, also Ludhiana, Jalandhar, Amritsar and Patiala district had higher proportion of urban population. During the period 1951-81, while Ferozepur district moved to position below state average, Kapurthala district moved to a position above the state average. In 1951, Amritsar district had the highest proportion of urban population (29.05%) but in 1981, Ludhiana ranked at number one position with 42.10% of urban population. The districts of Hoshiarpur, Rupnagar, Bthhinda, Sangrur, Faridkot and Gurdaspur continued to have lower proportion of urban population during 1951-81 though Rupnagar improved significantly over this period.

4.5 Growth of Urban Population Class-wise (1951-81)

The growth of urban population during 1951-81 was not the same in all the six classes of urban centres. Large urban centres experienced higher growth rate than the smaller ones during 1951-81.

4.7 During 1971-81, in all the urban classes except Class-VI population growth was higher than the average growth of total population. However, like in the previous decades Class-I & Class-III towns registered comparatively higher rates that may be explained in terms of better infrastructure in class-I cities and increased industrial activities in class-III towns particularly the market towns. The overall performance (growth) of all the urban classes was better during this decade than the previous ones. Comparatively higher and lower growth rates of larger and smaller urban centres during 1951-81 are mainly the outcome of (1) the presence of external economics resulting from the agglomeration of the activities due to better location and other factors and resulting into cost minimisation for entrepreneurs (2). Availability of qualitatively better facilities in larger urban centres and their absence in smaller urban centres.

4.8 Growth of Urban Population—Function-wise 1951-81

To examine the urbanisation process, urban centres are classified taking their major function at the end of the decade, as the basis. Table below indicates that the process of urbanisation in the State during 1951-81 remained oriented towards industrial towns, the proportion of urban population in industrial towns remained quite high. The population proportion in

market and services towns to total urban population was of moderate order, while primary towns had population of only marginal order. The table also shows that during the period percentage of population in industrial and market (except 1971-81) towns has increased continuously and in service towns the situation was the reverse, however, this percentage in case of primary towns remained the same.

**DISTRIBUTION OF URBAN POPULATION IN TOWNS—
FUNCTION-WISE (1951-81)**

Year	Primary towns	Market towns	Industrial towns	Service towns
1951	4.51 (15)	18.75 (39)	42.82 (25)	33.92 (26)
1961	4.41 (15)	20.38 (42)	42.66 (25)	32.54 (26)
1971	5.73 (22)	21.35 (47)	56.98 (25)	17.40 (20)
1981	4.27 (22)	21.35 (47)	56.98 (25)	17.40 (20)

TOTAL URBAN CENTRES AND POPULATION RANGES IN :

	North-eastern Zone (sub-montanus)	Central zone (industrial corridor)	South-Western zone.
Metropolitan	1	10,00,000 —	
Regional towns	12	50,000 — 2,50,000 — (4)	1,00,000 — 3,00,000 — (5)
Sub-regional town	16	25,000 — 50,000 — (2)	30,000 — 1,00,000 — (12)
Growth centres	37	10,000 — 25,000 — (10)	15,000 — 30,000 — (12)
Service centres	121	5,000 — 10,000 — (17)	5,000 — 15,000 — (50)
Total	197	33	79

The studies show that the urban population in the State of Punjab is likely to be distributed amongst the major urban complexes i.e. in Ludhiana, the fast growing industrial corridor, 12 regional cities/towns, 26 sub regional towns which will serve as a counter magnet to the fast growing cities/towns, 37 growth centres and 121 service/marketing centres. The distribution of urban population in these 197 urban centres by 2001 reveals that the total urban population of these urban areas will be approximately 80 lacs as against 97.5 lacs projected urban population of the State by 2001. In order to accommodate the additional projected urban population of about 17.5 lac persons, six to seven new towns like S.A.S. Nagar, Ranjitgarh, Goindwal Sahib would require to be set up in phases by the turn of the century at appropriate sites and locations for future urbanisation, visualising a major shift in concentration of urban population from fast growing cities/towns to medium and small size towns for balanced regional development requiring consistent efforts for dispersal of socio-economic activities to the stagnant and declining towns.

4.9 Conclusions

The class-I towns have shown a tremendous growth because they have been located all along the most important communication lines of the State, offer better job opportunities because of their diversified economic base with industry, trade and commerce. This is evident from the fact that the industrial towns have shown higher growth rates as compared to primary towns, market towns and service towns. Most of the industrially advanced towns having class-I of status are located in the central zone of the state.

4.10 Proposed Distribution of Urban Population (Zone-Wise) by 2001

Keeping the above trends in view, the distribution of urban population in the north-eastern zone (sub-montanus) central zone (industrial corridor) and south-western (arid zone) by 200 is give below :—

V. ADMINISTRATIVE SET UP :

Secretary, Local Govt. and Urban Development Departments, Punjab is the Administrative Head at the Government level. The urban development in the state is dealt by the following departments directly under the charge of Secretary, Local Govt. and Urban Development Departments :—

1. Town & Country Planning Deptt., Punjab.
2. Housing & Urban Development Deptt.
3. Local Govt. Department, Punjab.
4. State Housing Board.
5. State Water Supply and Sewerage Board.

Besides the above departments, two other state Govt. departments i.e. Director, Consolidation and Land Acquisition & State Small Industries & Export Corporation also contribute to the urban development related to their respective fields.

5.1 Town & Country Planning Deptt.

Town & Country Planning Department is the State Agency for environmental & physical planning, programming and monitoring of projects/schemes in urban as well as rural sectors. The Town & Country Planning Deptt. is a service agency for all State Govt. Deptts./Local Agencies viz. Town Improvement Trusts, Municipal Corporations and Municipal Committees. In the Urban Sector, the activities of the department include planning of New Towns, preparation of Master Plans for important cities, towns and places of historical/religious/tourist importance, preparation of Integrated Development Projects for major cities, preparation of layout plans and schemes of Improvement Trusts, Municipal Corporations, Municipal Committees and Urban Estates Department. In the rural sector, the activities of the deptt. include surveys and studies of Community Development Blocks for the preparation of Integrated Development Plans at various levels like state, district and block, preparation of development plans for villages selected under the I.R.D.P. The department has prepared Master Plans for 55 settlements covering 75% of urban population, Integrated Urban Development Projects for 26 towns and block plans for 92 development blocks.

5.2 Housing and Urban Development Deptt.

Due to the rapid urbanisation during the last two decade, there has been tremendous demand for the planned house sites in the urban areas. The Director Housing and Urban Development Deptt. is the State Level Agency, which has taken up the task of making available developed residential sites with all modern amenities by setting up residential urban estates in different parts of the State. The department has already set up 9 Urban Estates in the towns of S. A. S. Nagar, Patiala, Rajpura, Jalandhar, Ludhiana, Batala, Bathinda, Barnala and Phagwara. The department has acquire approx. 7,000 acres area and has made available 27,000 residential sites in different Urban Estates. The department is also responsible for checking unauthorised constructions under the various provisions of Punjab Schedule Roads and Controlled Areas Act and Punjab Regulation of Colonies Act.

5.3 Local Government Department

Heavy influx of people to the urban areas and inability of effectively organise economic development led to haphazard and sub-standard physical growth of cities and towns. The State Govt. deptts. and agencies are not in a position to meet both financial and physical requirements of civic amenities to the urban residents at the settlement level. The State at present has 3 Municipal Corporations, 28 Improvement Trusts and 126 Municipal Committees/Notified Area Committees. Provision of civic facilities like water supply and sewerage, drains, construction and maintenance of Public streets, environmental improvement of urban slums, recreational facilities etc. are the areas where Municipal Corps./Committees are exclusively devoting their attention. The Improvement Trust are actively participating in Urban Development Programmes.

Plots for residential, commercial uses etc. in the planned residential estates with all modern amenities are being provided by the Trusts. Special emphasis is being given to give plots to the EWS/LIG categories.

The department is successfully implementing the IUDP/IDP of Small and Medium Towns and Environmental Improvement of Urban Slums Programme in the Urban centres of the State. A sum of Rs. 1087.50 lacs, Rs. 780.00 lacs and Rs. 2400.00 lacs have been respectively spent on these programmes. Also 25% budget of the local bodies is exclusively earmarked for water supply and sewerage schemes and the same percentage is earmarked for environmental Improvement of Urban Slums.

The department has also participated in UNICEF sponsored Urban Basic Services Programme. The main thrust of the programme is to extend basic services to the urban poor with focus on children and women who need the greatest care. It also aims to increase earning capacity of the women, thereby increasing their family income. Local Govt. Deptt. is also participating in international year of Shelter for the homeless. Ludhiana has been selected as a Pilot Project. The objective of the programme is to assist the urban poor to have his shelter.

5.4 Punjab Housing Development Board

Keeping in view the fact that the State Govt. Deptts. autonomous local bodies and Improvement Trusts connected with improvement of housing stock were not in a position to ensure continuing construction activities and spare adequate funds for housing in their budget, Punjab Housing Development Board was created in 1975. The major task of the Board is to construct houses especially for weaker sections of the society, which are not in a position to construct houses from their own resources. In order to promote private construction, the State Govt. had decided to allot residential plots at reserve price so that lower, middle class people may have the houses of their own. In the urban areas the board has constructed 7600 houses out of which 50% are for the lower income group and economically weaker section of society.

5.5 Punjab Water Supply and Sewerage Board

Punjab Water Supply and Sewerage Board (PWSSB) was set up in Nov. 1976 for planning, design and execution of water supply and sewerage schemes in urban areas of the State. It is administratively controlled by Local Govt. Deptt. of the State. The Board is responsible for raising finances from National and International Financial Institutions in addition to the State Govt. loans and contributions by M.C's. Since its inception about 9 years ago, the Board has executed water supply and sanitation schemes amounting to Rs. 120.00 crores and has provided water supply to 26 lacs persons and sewerage to 21 lacs urban population of the State. The Board has plans to cover 100% urban population with water supply & 80% with sewerage facilities at a cost of Rs. 302.00 crores under the 'International Drinking Water Supply and Sanitation Decade (1971-81).

5.6 Director, Colonization and Land Acquisition

In the wake of agricultural revolution in Punjab legislation known as "New Mandi Townships Development and Regulation Act, 1960" was introduced to meet the need for developed sites for marketing of agricultural produce residential and other requirements. New Mandi Townships were set up in selected villages which eventually emerged as small marketing towns. The department looks after the setting up of new mandies in the State. It has established 90 mandis in the various towns of the State.

5.7 Punjab Small Industries and Export Corporation

Corporation is providing industrial sites in various towns of the State. Land is acquired by the Industries Department and transferred to P.S.I.E.C. for development. The sites are being fully developed with infrastructure, such as water supply, sewerage and land scaping etc. planning is conceived in a comprehensive manner and industrial focal points are planned as a self-contained unit, providing physical infrastructure, such as fire station, dispensaries, commercial shops etc. The Corporation has set up 16 focal points in the State making available 2200 industrial plots of different sizes. The Corporation has taken up self-financing schemes to provide industrial plots in the urban areas. Seed money of Rs. 50.00 lacs has been provided for this purpose by the State Govt.

5.8 Planning and Urban Development Authority

Presently Punjab does not have any comprehensive law on Town Planning and Development Authority. Accordingly urban development is being carried out by the different State Govt. Departments in a piecemeal manner resulting sometime into gaps and sometime into overlapping of functions. For comprehensive planning and regulated development of urban areas, constituting of a State Level Urban Planning and Development Authority, is under the active consideration of the State Govt.

The authority shall be a body Corporate by the name of Punjab Planning and Urban Development Authority having perpetual succession and a common seal with the objective to promote and secure development of urban and urbanisable areas in Punjab. For this purpose the Authority shall have power to acquire, hold, manage and dispose of land and property to carry out building, engineering mining and other operations to execute works in connection with water supply, disposal of sewage and do anything necessary or expedient for purposes of such development and for purposes incidental thereto.

VI. URBAN INFRASTRUCTURE & FINANCES

6.1 Housing

Expansion and improvement of housing remains the most difficult problem. The present deficiency is large and the gap is growing rapidly. The costs of expansion of housing are very high in comparison with the incomes of the great majority of the urban residents.

There has been a rapid increase in housing stock in the urban areas of the State during the 1971-81 decade. In 1971, there was a shortage of 1,10,000 houses. During 1971-81, 2,96,000 new houses were added to the existing stock and shortage of houses was of the order of 21,000 houses. However, this does not take into account the qualitative aspect of the housing. Inner areas of cities/towns are too old and require remodelling/replanning. Besides a large population live in slum areas in un-hygienic conditions. Housing programmes for this population need to be taken up keeping in view the rising expectations of the people. Housing programmes shall also need to be taken up for the expected 20 lacs new entrants in the urban areas during 1981-91 decade. As such additional 5.00 lacs housing units would be required by 1991.

6.2 Water Supply and Sewerage

There are three major perennial rivers in the State viz. Satluj, the Beas and the Ravi and a well developed net work of irrigation canals. The ground water table is generally high and abundant and is also the main source for domestic water supply. In four southern districts of the State, however, the incidence of dental and skeletal fluorosis is severe because of the use of the ground water with high flouride content. In recent years Punjab has done quite a lot for providing piped water supply to its main urban centres. Total urban population served with water supply increased from 17 lacs in 1976 to 43 lacs in 1985, covering 88 towns although, some of the towns are partially covered. People without access to piped water supply rely mainly on hand pumps and shallow wells. Industries are either connected to the public system or have their own water supply.

Partial underground sewerage system was in existence in only 46 towns in 1976 covering a population of 6.50 lacs. A total of 61 towns have access to partial sewerage system in 1984 covering a population of 27 lac persons (52%). Remaining population not connected to sewerage system has septic tanks and uses conservancy system/defecates in open or in the fields. In areas where underground water table is low, a beginning has been made to introduce low cost sanitation schemes. Under the U.N.D.P. project, low cost flush latrines are being installed in 6 towns of the State at a cost of Rs. 350.00 lacs, benefitting 15,000 persons. Low cost sanitation has also been provided under centrally sponsored scheme of I.D.S.M.T. at a cost of Rs. 231.00 lacs in 8 towns. The expenditure incurred for water supply and sanitation schemes in the State is as under :—

Year	Expenditure incurred (Rs. in crores)
Upto 1976	14.00
1977-78	9.20
1978-79	8.65
1979-80	14.69
1980-81	20.81
1981-82	21.34
1982-83	19.34
1983-84	17.35
Total	Rs. 125.37 crores.

The United Nations has declared the decade 1981-91 as the International Drinking Water Supply and Sanitation decade. The following objectives are proposed to be achieved by 1991 :—

- (i) Urban Water Supply 100%
- (ii) Urban sewerage & Sanitation. 100% in respect of Class-I cities, 50% in the respect of Class-II and other cities with an over all 80% coverages in the State. Treatment of sewerage for Class-I towns.
- (iii) Rural water supply 100% population to be covered with basic minimum needs of safe water supply.
- (iv) Rural Sanitation 25% of the population to be covered with sanitary toilets.

As per the decadal programme 1981-91 financial outlays amounting to Rs. 206.27 crores have been made as follows :—

	New schemes (Rs. in crores)	Augmen- tation (Rs. in crores)	Total (Rs. in crores)
Water-supply	78.44	25.69	104.13
Sanitation	88.61	13.53	102.14

6.3 Industries

There has been a rapid growth of industries though their growth pattern has not been uniform. In 1980, the State had 7374 industrial units which employed 2,01,735 persons. In 1984, their number rose to 9539 industrial units employing 2,73,732 persons. There was thus an increase of approximately 30% in the man-power employed in the industrial sector of the State. This pertains to registered industrial units.

As per industrial survey conducted by Economic and Statistical Organisation of the State, there were 65,466 un-registered units in the State. They were employing 1,61,720 persons. The un-registered industrial units are normally service and repair units. The rapid pace of industrialisation in the State indicates that in post-1977 period, their number might have increased to approximately 1,00,000 units employing approximately 2,10,000 persons.

6.4 Health Services

State has well developed system of medical services in the urban areas. In 1971, there were 111 hospitals, 14 primary health centres and 103 dispensaries in urban areas. In 1985 the State had 146 hospitals, 19 primary health centres and 221 dispensaries to serve 134 urban centres in the State. There was thus an increase of 31% in case of hospitals, 36% in case of primary health centres and 115% in case of dispensaries over the period 1971-85.

Besides this, the health services are also maintained by Police Deptt., Canal Deptt. Railways etc. In 1971, there were 80 hospitals, whereas in 1985 their number rose to 135 units.

Special steps have been taken for family welfare and family control programmes to check rapid growth of population to guide women in various family planning

measures. In 1971, there were 42 family welfare clinics in urban areas. These clinics were provided by State Govt. and other local bodies. In 1985, their number rose to 64.

These efforts on the part of the State have considerably reduced the birth rate, death rate and infant mortality rate in urban areas of the State came down from 29.2 per 1000 in 1975 to 28.6 per 1000 in 1984. The death rate came down from 9.2 per 1000 to 5.8 per 1000. Similarly mortality rate came down from 60 per 1000 to 33.8 per 1000.

6.5 Education

No specific details of educational facilities in urban areas is available. Data, both for urban areas indicates that state is well served with various types of schools. In 1984, there were 12,333 primary schools, 1,430 middle schools, 2,265 high schools and 260 higher secondary schools. For higher education, the state has a well developed network of three Universities (one Agricultural University, 163 colleges, 9 medical colleges, 18 teach training colleges, 3 Engineering colleges and number of other types of educational institutions.

During the period 1980-84, the number of high schools students increased from 2,93,000 to 3,36,000 middle school students increased from 70,000 to 7,06,000 and primary school students decreased from 20,68,000 to 19,85,000. The fall in number of primary school students may be attributed to private unrecognised public schools in the state. They cater the demands of those people who wish to send their wards for public schools.

6.6 Employment

In 1971, urban population in the State was 32,16,179 persons. Total urban workers were 9,03,895. Percentage of workers to total population was 28.10. In 1981, urban population of the State increased to 46,47,757 persons. Of the total urban population 13,71,334 persons were gainfully employed. The employment rate during 1981, therefore, was 29.51 percent. There was thus an increase of 1.41 percent in the workers of various categories and 4,67,439 persons got employment opportunities in one or other sector of employment.

6.7 Finances for Urban Development

During the seventh Five Year Plan (1985-90) an outlay of Rs. 4,057.00 lacs has been proposed for various schemes of urban development. This allocation shall be further augmented from institutional, municipal and other sources. The amount to be utilised on development of integrated urban development of large towns, Rs. 69.00 lacs and environmental improvement of urban slums Rs. 500/- lacs.

Under water supply and sewerage, a provision of Rs. 5800/- lacs has been made in Seventh Five Year Plan. Out of this, Rs. 2950/- lacs has been provided for sewerage treatment plants, an outlay of Rs. 87.00 lacs is provided for U.N.D.P. project for low cost sanitation and for setting up of mechanical compost plant at Amritsar, Jalandhar and Ludhiana Rs. 70.00 lacs has been provided under urban solid waste disposal scheme.

VII. LEGISLATION

7.1 Present Situation

Enactment of legislation for Integrated and comprehensive development of towns has been under the active consideration of the State Govt. However, in the absence of comprehensive legislation development by various agencies is carried out under the provision of following acts :—

- (i) The Punjab Municipal Act, 1911.
- (ii) The Punjab Town Improvement Act, 1922.
- (iii) The Punjab Development of Damaged Area Act, 1952.
- (iv) Punjab Slum Areas (Improvement & clearance) Act, 1961.
- (v) Punjab Scheduled Roads and Controlled Areas Act, 1963.
- (vi) Punjab Urban Estates Development and Regulation Act, 1964.
- (vii) Punjab Housing Development Board Act, 1972.
- (viii) Punjab State Board for Prevention and Control of Water Pollution Act, 1974.
- (ix) Punjab Regulation of Colonies Act, 1975.
- (x) Punjab Water Supply and Sewerage Board Act, 1975.

7.2 Deficiencies in the Acts

None of the above Acts deals with problems of urban development in a comprehensive manner nor do any of these has adequate provisions for the regulation of land use in the absence of "Prescribed Master Plans" of the cities/towns. Therefore, it has not been possible to check unauthorised, unplanned, haphazard and substandard development. Some of the deficiencies in these Acts are as under :—

- (i) At the city level, there is no single agency to implement various programmes of development to cater to the needs of the urban population.
- (ii) There are no restrictions on the sale/transfer of land within the controlled Areas resulting in sub-division of agricultural lands into urban uses.
- (iii) There are no provisions to recover betterment charges resulting from the change of land use and provision of urban infrastructure.
- (iv) Lack of adequate machinery of proper enforcement of the provisions of the Acts.
- (v) Lack of inter-agency coordination to check haphazard utilisation of land in and around the cities.
- (vi) Absence of clear urban land use policy including preservation/conservation for physical planning and development at local/regional/state levels.

As a result of multiplicity of legislations, there is multiplicity of organisations in the same area i.e. Improvement Trust, Housing Board, Urban Estates Deptt. etc. dealing with different aspects of planning, sometimes having overlapping functions and jurisdictions. This multiplicity of authorities coupled with elaborate procedure for each of these organisations and without establishing proper linkage among them, often creates problems in the planning process, both at the formulation and implementation states.

Urban problems are not to be viewed merely as local problems but must be viewed in the regional/state context. Planning and development authorities for major cities, new towns, scheduled roads etc. must be set up. Therefore, there is an urgent need for enactment of comprehensive legislation. Such an enactment should provide for preparation of Regional Plans at state level and setting up of city level agencies with powers for preparation of plans, coordinating, implementing, funding and supervising the work of developments within a particular city. In nutshell such an agency shall be responsible for the future development, improvement of the existing situation and exercise control over haphazard growth in and around the city.

VIII. PROBLEMS FACED IN URBAN DEVELOPMENT

8.1 Inadequate Infrastructure

The rapid growth of urban population in the last two decades has created wide gaps in the provision of infrastructural facilities in terms of housing, water supply, sewerage etc. In addition these facilities needs to be provided for additional 2.00 lacs persons per annum till 1991 and at a rate of 3 lacs persons per annually during 1991–2001 requiring very heavy investment.

One of the major problems faced in the urban development in the State of Punjab is inadequate urban and regional transport infrastructure. Major road and rail infrastructure is far too inadequate to cope up with the ever increasing traffic in the urban and rural areas. Further more, this has badly effected balanced urban and regional development. Bigger cities/towns have continued to grow causing heavy stress on the urban infrastructure. If the major road and rail infrastructure is developed adequately, it will take care of the growing urban population and there will be tendency of the people to stay in the rural areas and go for work in the urban areas thereby lessening the stress on the urban infrastructure. Punjab being the agricultural economy, the development of the major transport infrastructure is therefore very essential.

Due to shortage of funds with the local bodies urban infrastructure has not kept pace with the increase in population. As a result, a substantial population is devoid of the basic needs of piped water supply and underground sewerage system. Treatment plants for disposal of sewage have not been provided in any of the towns. There is shortage of houses and the housing stock is generally of poor quality. Solid waste

disposal is not being done properly in a hygienic manner.

Presently, 82% and 52% of the urban population is covered with water supply and sewerage facilities respectively. To meet the decadal programme (1981-91) viz. covering 100% urban population with water supply and 100% with sewerage in Class-I towns and 50% in Class-II towns including provision of treatment plants for sewage and compost plants for Class-I towns, a sum of Rs. 200/- crores approx. would be required. It may not be possible for the local bodies or the State Govt. to provide funds at the rate of Rs. 40/- crores for each year to meet the decadal programme. As such Govt. of India in collaboration in international financial institutions should help the State Govt. to overcome this colossal problem.

8.2 Concentration of Urban Population

65% of the urban population is concentrated in central zone and a major proportion i.e. 46% lives in Class-I towns. This has resulted in haphazard growth of these towns thereby creating congestion and slums in central areas, unauthorised constructions along the roads, encroachment of Govt. lands, water and air pollution etc. Due to horizontal growth of these towns, the cost of providing amenities and facilities is very high as compared to cost of providing these to small and medium towns.

8.3 Absence of suitable Management in Smaller Settlements

The developmental activities in the larger towns and cities specifically with regard to urban infrastructure for residential, educational, medical and health etc. are being supplemented by the State Govt. departments and Local Agencies. The largest number of urban settlements fall in Class-IV, V & VI category having population of 20,000 and below. These towns are entirely dependent on agricultural marketing and the allied agro based service industries. These small urban settlements have been subjected to a gradual reduction in their scope of the development to marketing centres only and the other activities are growing haphazardly without the requisite amenities and services i.e. roads, water-supply, sewerage, sanitation etc. In the absence of any development agency at the small town level for meeting the requirements of developed sites for residential and other purposes the existing local municipal agencies with their limited financial resources are being further burdened to provide the amenities and services in the haphazardly growing pocket in the small town settlements.

8.4 Inadequate funds for Urban Development

A very high priority has been given to the urban development in the State Plan and a provision of Rs. 1169.00 lacs has been made for urban development. Yet these allocations are highly inadequate, keeping in view the gigantic task. It is estimated that by 1991, there will be an additional requirement of Rs. 5.00 lacs housing units in urban areas of the State. The State Govt., voluntary organisations and private individuals will have to provide Rs. 4,00,000 millions to the minimum for housing sector. Thus the existing

allocation of funds of Rs. 1169.00 lacs provided in the State Plan is, therefore, all, negligible amount.

8.5 Lack of Comprehensive Legislation

The state does not have a comprehensive law on town planning and development activities. Piecemeal legislation and sectoral planning strategies have resulted in haphazard, uncoordinated and un-planned growth of urban areas causing undue strain on the municipal resources.

Moreover as a result of multiplicity of legislation, there is multiplicity of organisation in same area, i.e. Improvement Trust, Housing Board, Urban Estates Depts. etc. dealing with different aspects of planning, sometimes having over-lapping functions and jurisdictions. This multiplicity of authorities coupled with elaborate procedure for each of these organisations and without establishing proper linkage among them, often creates problems in the planning process, both at the formulation and implementation stage.

8.6 Difficulties in Land Acquisition

For any urban development programme the land is first pre-requisite. The State being primarily agricultural, it is very difficult to acquire land for urban purposes. The acquisition of land takes very long time and is very expensive. As a result, it has not been possible to acquire large chunks of land for urban purposes and most of the urbanisable land continues to remain in the private hands, often for speculation.

8.7 Absence of Comprehensive Industrial Policy

The present system of selective industrial location has created not only economic imbalanced but has also led to many problems for urban system. Industrial Focal Points invariably are located in urban areas, while selecting these sites no thought has been given to break-gap in urban infrastructure, which are to be created with the incoming of additional industrial force. Also environmental requirements have not been strictly followed in determining the location of industrial estates. The situation has further worsened with licensing of any type of industry viz. polluting or otherwise near human settlements. These industries have spread along the corridors of major cities and towns indiscriminately. It has created the problems of traffic and transportation and of various controls.

8.8 Urban Management System

Urban management system in the state was created to meet the needs of slow population growth. They were designed for a limited number of managerial functions, which did not include planning for rapid population growth or changes in physical development. The new comers make demands on the city's meagre resources but make no contribution to the City's income. There is a shortage of houses, schools, health centres, drainage, sewerage, shopping facilities, water supply, inadequate roads, refuse collection system, lack of administrative and professional staff and other community works and most important of all is the shortage of funds to meet the recurring costs and investment needs. The result is that the urban life is facing chaos.

IX. PLANNING AND DEVELOPMENT STRATEGIES

9.1 The long term urbanisation perspective envisages development of small and medium towns, in the urban sectors, area planning, development and improvement of village settlements in the rural sector by providing basic infrastructural services and improving the quality of human environment. The urbanisation perspective envisages a settlement pattern and structure plan for the future planning and development of integrating the spatial distribution of socio-economic activities at the settlement level and check rural migration to towns. Development policies/strategies have been identified for balanced spatial distribution of economic activities, generating large scale employment in the urban sector, improving the quality of life and living conditions of the people in the urban and rural settlements.

1. SETTLEMENT PATTERN :

- (i) A settlement pattern and structure plan be evolved at the State level for spatial distribution of the socio-economic activities and their integration with the physical and environmental coordination.
- (ii) The major portion of the future urban population needs to be accommodated in the existing cities and towns keeping in view the inbuilt characteristics of such settlements. The economic status viz. marketing, industry etc. in the existing settlements may be upgraded wherever necessary and new areas identified for meeting the projected requirements of land etc. in the city/town master plans.
- (iii) As all the Class-I towns in the central corridor have shown a very fast growth rate and the three corporation cities i.e. Amritsar, Jalandhar and Ludhiana have already become unmanageable, further growth of these corporation cities be discouraged. No new activities other than these which supplement the existing infrastructural facilities may be provided in these towns. No new medium or large scale industry be permitted in these three towns.
- (iv) Taking note of the physico-graphic and socio-economic conditions in the State and inbuilt capacity of the local areas to not only sustain but physically support higher population, large settlements be developed in the central zones, whereas smaller settlements be developed in the south zone and the north zone. The setting up of new cities/towns in these zones would require improving the existing regional infrastructure i.e. rail road and intake of surface water for domestic purpose. Steps need to be taken to strengthen these infrastructure in these zones.
- (v) All the small & medium towns should be covered under the Integrated Development Programmes which will ensure integrated

planning and development of urban settlements making available developed sites for different uses i.e. industrial, commercial, residential and housing sites for all sections of the society and the infrastructure amenities and services. In order to achieve maximum growth of small and medium towns and to induce the desired population in these areas, socio-economic activities need to be distributed in these areas. For this purpose industry and new whole sale market areas be encouraged to be set up in these towns.

- (vi) Efforts may continue to be made to check and minimise rural urban migration. A higher order of infrastructure services may be provided in the rural settlements. To achieve this objective, it is also recommended that the earlier scheme for making available infrastructure and services in five growth centres, each serving 20 to 25 villages in the community development block may be revived. This scheme be completed by 1991. In the 2nd phase upto 2001, focal villages to serve 5 to 8 villages may be developed and a package of activities specifically relating to balwaris, craft centres, mahila mandals etc. may be provided.
- (vii) Employment opportunities in the rural settlements may be generated through incentives for new cottage industries in the focal villages and a strong marketing net work be created for the marketing of the produce. Agro based industries for processing of agricultural produce, cold storage facilities, schemes for environmental improvement and community centres-cum-library with community television and radio may be introduced.
- (viii) New grain markets being set up by the Colonisation Deptt. and the Punjab State Agricultural Marketing Board, in the smaller settlements may also provide the basic infrastructure facilities for residential, institutional and other community needs. The rural settlements and the smaller urban settlements where these mandis are being set up also do not have any development agency to provide for the basic infrastructure for residential institutional and other community needs. Whenever new grain markets are set up in small settlements viz. less than 20,000 population, the provision of other infrastructure may also be taken up by the Colonisation Deptt. and adequate provision made for acquiring land and its development as a township.
- (ix) The future policy of utilisation and development of urban land in the State should be on the principle of a proper mix of high density, high rise and medium density development in order to save as much agricultural areas as possible. Schemes for re-development of core areas in all the major cities and

selected towns need to be identified for intensive utilisation with multi-level high rise structure.

2. INVESTMENT PRIORITIES

- (i) Urban land policy aiming at setting up of urban land bank need to be evolved and in turn will require higher allocations in the urban sector in the State Plan.
- (ii) The scheme of setting up of "New Towns/Cities" in the Punjab introduced in the sixth Five Year Plan needs to be continued in order to provide for a bulk of new activities and channelisation of the additional urban population. The establishment of New Towns aims at generating large scale employment, rejuvenating stagnant and declining urban settlements, improving the quality of urban life and services and act as a potential course of economic development and utilisation of modern technology for harnessing and conserving solar energy for domestic, industrial and business requirements.
- (iii) The State Plan outlay in the industrial and urban sectors (including housing, public health and sanitation) is 16% of the total which is grossly inadequate for meeting the projected requirements. The long term urban perspective plan should also aim at integrating socio-economic development activities at the State and local level with the physical and environmental requirements and calls for adequate representation of this sector on the State Planning Board.
- (iv) The industrial growth in the State should keep in view the socio-economic conditions of the State. The State is highly suitable for agro-based backward and forward linkages industries which are capable of employing large section of rural and semi-rural population. With a view to check the concentration of population in urban areas, the present policy of export of agricultural production to other states may be replaced by

setting up of agro-based industries in Mandi towns, purchase centres and smaller towns of the State. Location of obnoxious and environmental industries should be determined with reference to urban and rural settlements within the regional context. The industrial policy of the State should also ensure that there is a proper management of industrial waste before they are discharged or dumped in public places. The Govt. of India be requested to grant liberal licences for settling up agro-based industries in the State.

3. LEGISLATION

- (i) Comprehensive legislation to provide for setting up of Planning and Development Authority i.e. Apex Body at State level and single development agencies to look after all the functions of development at the city level. At first instance, these should be set up at Corporation cities, namely Jalandhar, Amritsar and Ludhiana.
- (ii) A consolidated urban development fund needs to be created. It is essential that all investments in the urban centres for the purposes of providing infrastructural facilities such as housing, roads, water supply, drainage, parks, and play fields etc. should be channelled through this fund instead of independent agencies operating funds for different purposes. Only such a coordinated financing should ensure proper and systematic development of urban areas.

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RAJASTHAN

MEMORANDUM TO THE NATIONAL COMMISSION ON URBANISATION URBAN DEVELOPMENT AND HOUSING DEPARTMENT

December, 1986

Urban Profile of Rajasthan

The growth of urban population in Rajasthan got impetus only after independence on account of various development activities in the State under Five Year Plans. The growth in urban population during 1971-81 decade was 58.71% while that for the country as a whole was 46.4%. In 1981 out of the total population of 342.62 lacs of the State, about of 72.10 lacs i.e. 21.05% lived in urban areas of the State. In 1981, as per the census, there were 201 urban centres. Out of these 6 towns of smaller size, located near big urban centres were also integrated as a part of the main city urban agglomeration. Thus, there were 195 towns in 1981. The details of the urban structure in 1981 is given in Table-1 below :

TABLE : I—URBAN STRUCTURE OF RAJASTHAN—1981

S. No.	Class of town	No. of towns.	Population in lakhs	%age of total urban population	%age of Growth Rate population 1971—81
1.	Class—I 10,000 & above)	11	33.76	46.80	77.45
2.	Class-II (50,000 — 1,00,000)	11	7.21	10.00	44.75
3.	Class-III (20,000— 50,000)	52	15.74	21.80	69.25
4.	Class-IV (10,000— 20,000)	98	13.49	18.74	50.22
5.	Class V & VI	23	1.90	2.66	38.38
		195	72.10	100.00%	58.71%

The main features of urban structure in Rajasthan as is evident from the above Table are :—

1. The urban structure is mainly dominated by small and medium towns. There are only 11 towns with population of over one lac persons, while 173 towns are of below 50,000 population and out of these 121 are of small size with population 20,000 and below.

2. Only Jaipur has a population more than 10 lacs. The population of Jodhpur is 5.06 lacs and the rest of the class-I towns are of size between 1 to 5 lacs population.
3. The problem of urban concentration has now started in Rajasthan, and about 47% of the urban population is residing in 11 class I towns.
4. The growth of big cities is high in comparison to small and medium towns. This trend is mainly because of the fact that these large cities have well developed infrastructure and consequently are more attractive places for investment and employment.
5. Thus, there is heavy migration from villages and smaller towns to cities due to lack of enough employment opportunities and facilities which 'push' people to look for better opportunities in large cities.
6. The role of small and medium towns in urban structure of the State is very significant, as these towns act as services centres for the hinterland. Due to backwardness and variation in physical character and landscape in different parts of the State, the spatial distribution of towns is not even. In western Rajasthan and south-eastern tribal region the service area of the towns is very large. In Jaisalmer district there are only 2 towns and the service area per town comes to 19,200 sq. kilometers while in Barmer the service area comes to about 9,500 sq. km. Most of the development activities and facilities like wholesale markets, Industrial area, Warehousing, Retail markets, Truck Terminals, Offices, Banks, Schools, Hospitals etc. are located in the towns only. Thus small towns in the state have great significance in over all growth in the regions and consequently of the State as a whole.

Future Urbanisation Prospects

Rajasthan is still in the transformation stage of techno-economic development and various steps are being taken to explore the potential natural resources in different parts of State. Hence the existing

trend of urbanisation is likely to continue in next two decades also. While more Industrial units shall be located in the towns, the natural resources of the state shall be developed further. The potential natural resources areas of south-east, Indira Gandhi Canal Irrigation in the west and Mahi-Bajaj Project in south, and certain other development projects shall promote agriculture, Industry, trade and commerce, transportation etc. in different parts.

Under the above conditions it is expected that by 2001 AD the urban population of State shall increase to about 160 lakhs, which will be about 29 percent of State's population. The number of towns is expected to rise to about 350, out of which only 25 shall be Class I. Thus urban structure of Rajasthan shall continue, to be dominated by small and medium towns. By 2025, the urban population is expected to reach to 360 lakhs. The expected urban structure for 2001 is given in Table-2 below :

TABLE--2
URBAN PERSPECTIVE--2001

Category	Estimated population 2001		No. of towns.
	Population in lakh.	%age	
Class-I	75.00	46.9	25
Class-II	26.00	16.2	35
Class-III	32.00	20.00	110
Class IV and below	27.00	16.9	180
total	160.00	100.00%	350

Urban Planning and Administration

The planning and implementation in urban sector is the responsibility of the State Government. The following main agencies are engaged in urban development programme in Rajasthan :

1. Town Planning Organisation
2. Directorate of Local Bodies
3. Jaipur Development Authority
4. Urban Improvement Trusts
5. Municipal Bodies
6. Other agencies.

1. Town Planning Organisation

The State Town Planning Organisation is headed by the Chief Town Planner. The department is the main agency for preparation of regional development plans, master plans, sector plans, schemes etc. for various regions and urban areas throughout the State. The department prepares schemes for various local bodies and provides necessary technical assistance in this regard. The head office of the department is located in Jaipur and its field offices are in Ajmer, Jodhpur, Udaipur, Kota, Alwar and Bikaner. Each of these field offices look after the work of 3 to

6 districts. Some of the officers of the Town Planning Department are also posted in UITs, Municipalities, Jaipur Development Authority, Community Development Department, Environment Department, Housing Board, Urban Land Ceiling Department, Rajasthan Industrial & Investment Corporation etc. The department also assists the State Government in formulation, building by-laws and architectural control measures etc.

2. Director, Local Bodies, Rajasthan

The Director, Local Bodies, Rajasthan is the controlling officer for all the municipal bodies in the State. The Director supervises the various activities of all the municipal bodies and provides necessary administrative and financial control. The office of the Director is located in Jaipur.

3. Jaipur Development Authority

Jaipur Development Authority was constituted for planning and integrated development of Jaipur metropolitan area and a region around it. This authority was established in 1982 under a special act. The Chief Executive of the authority is the Commissioner. It has three Directors from Engineering, Town Planning and Accounts Services of the rank of Chief Engineer, Chief Town Planner and Chief Accounts Officer respectively. It is the planning and implementation agency for urban development projects within its jurisdiction and the Act provides ample powers to JDA for such purpose.

4. Urban Improvement Trusts

For planned urban development of important towns mostly of more than one lakh populations, UITs have been constituted under the Rajasthan Urban Improvement Act, 1959. Such Trusts are functioning at present in 9 towns viz. Jodhpur, Udaipur, Kota, Ajmer, Bikaner, Bhilwara, Sri Ganganagar, Alwar and Bharatpur. Thus, UITs are functioning in the State for the last 27 years. The Urban Improvement Act also preparation of Master Plans and Development schemes in various towns.

5. Municipal Bodies

In Rajasthan, Municipalities are established under Rajasthan Municipalities Act, 1959. There are 196 municipal bodies in the State out of which 19 are municipal councils, other are municipal boards and two are Notified Area Committees.

The Municipal Councils have Municipal Commissioners and Municipal Boards have Executive Officers as the officers in-charge of their respective offices. The elected municipalities are headed by the Chairman while in some others, for the time being, administrators have been appointed by the Government. As in the general pattern elsewhere in Rajasthan also the Municipal bodies are, in general, rather weak financially and in the availability of technical personnel in their offices. Therefore, most of these local bodies are engaged in maintenance of municipal services only and have not been able to take up urban development programmes in an appreciable manner,

6. Other Agencies

Besides the above mentioned agencies which are directly responsible for urban development in the State, there are a number of other agencies like, Housing Board, Rajasthan Industrial and Investment Corporation, Public Health Engineering Department, State Electricity Board, Department of Medical & Health etc. which are also involved in the urban development in their respective fields of activities.

(i) Rajasthan Housing Board

The Rajasthan Housing Board was constituted in 1970. The Board is constructing houses of all the categories of income group in number of towns. Presently the Board's construction activity is going on in 32 towns including all the major towns. The Housing Board propose to extend its activities to 16 more towns. Nearly 75% of the total housing are meant for L.I.G. and Economically Weaker Section. The Housing Board has so far constructed nearly 55,000 houses in various towns out of which possession of nearly 32,000 have been handed over to the beneficiaries. Future programme of Rajasthan Housing Board is quite ambitious. During the year 1986-87 the Board proposes to complete nearly 11,000 houses.

(ii) Rajasthan Industrial & Investment Corporation

RIICO is developing industrial areas in the various parts of the State. The industrial areas are located near urban centres, RIICO acquires land and develops it providing necessary infrastructural facilities and allot it to the prospective industrialists. In almost all major towns, industrial areas have been developed by RIICO.

(iii) Rajasthan State Agriculture Marketing Board

This Board is responsible for the development of whole-sale markets for agricultural produce, the marketing of which is regulated by this Board. This Board acquires sizeable chunks of land and develops these for wholesale markets and constructs shops and godowns and facility buildings in these markets.

(iv) Rajasthan Road Transport Corporation

This Corporation develops bus stands in the various centres and maintains and manages these. As there is no uniform policy, the bus stands are also being constructed in many towns by the Local Bodies such as UITs and Municipalities.

(v) The Rajasthan State Electricity Board, Public Health Engineer Department, Department of Medical and Education etc. are responsible for electricity, Water supply, provision of medical and health facilities and educational institutions respectively in the urban areas.

On-Going Development Programme

A. Preparation of Regional Plans

The Town Planning Department has prepared a regional development plan for Indira Gandhi Canal

Region. The settlement pattern and road net work in the region is being developed as per the regional plan. A similar regional development plan for Rajasthan Sub Region of National Capital Region is under preparation.

B. Preparation of Master Plans

Master Plans for 25 towns have been prepared. Out of these 5 have been approved by the Government and the remaining 20 Draft Plans have been notified for inviting public objections and suggestions. The work on preparation of Master Plans for and the 13 towns is in progress.

C. Town Planning Schemes

For most of the towns, schemes for residential, commercial, road improvement, bus and truck terminals etc. have been prepared by Town Planning Department. Many of the schemes have been implemented or are under implementation. During the last five years about 1350 schemes have been prepared. The implementation of these schemes is through the local bodies. Due to paucity of funds and lack of technical personnel in the local bodies, the implementation of these development schemes gets a set-back.

D. Katchi Basties

It is estimated that about 12 lacs persons live in various katchi basties (slums). The improvement works in katchi basties are being taken up under Environmental Improvement Programme, which includes construction of roads, pavements, water supply, drainage, electricity, latrine blocks etc. So far about one third of the total slum population has been covered in this programme.

E. Integrated Development Programme of Small and Medium Towns

Under the centrally sponsored schemes for integrated development of small and medium towns, 16 towns have been covered. The work under this scheme has been quite satisfactory. In Rajasthan, 11 towns were sanctioned by the Government of India under this programme during the VI Five Year Plan period. This work is nearing completion and full central assistance has been availed of. About 14,000 residential plots shall be made available in these 11 towns. 1750 Retail Shops have been provided out of which 550 have been constructed or are under construction. This programme has acted as a booster for taking up other urban development projects in small & medium towns. This otherwise would not have been possible due to meagre financial resources of the local bodies.

F. State Urbanisation Programme

All these on-going programmes are being taken up independently as the overall state urbanisation plan has not been worked out so far. Town Planning Department has taken up the programme for the preparation of state physical plan which shall indicate the size and spatial distribution of urban centres in the State and regional transportation network. The

Plan shall also identify various resource regions. The Master Plans are prepared on priority basis depending upon population and importance of various towns. The schemes are prepared in view of the overall development programme of the city. But many other developments like selection of sites for Mandies, Industrial areas, conversion of agricultural land to various urban uses etc. which are done by different agencies, lack the overall perception of integrated town development due to the non existence of an overall coordinating agency.

Problems of Urban Development

(i) Problems of Metropolitan and Class-I towns

The growth rate in bigger towns is much higher than other towns. During 1971-81, the growth rate of Class-I towns was 77.45 percent as against overall urban growth rate of 58.7%. Jaipur City with a population of over 10 lakhs in 1981 has attained metropolitan status. Its growth of population during the decade 1971-81 was 59.42%. Many other towns such as Jodhpur, Ajmer, Kota, Bikaner, Bhilwara, Alwar, Sri Ganganagar etc. are also developing fast. Due to the rapid growth in big towns a number of problems are being faced.

There is housing shortage in most of the towns as 40 to 50 percent of the families in these towns are living in one room tenements while about 15% of the houses are made up of mud wall and thatched roof. The housing board/UITs and municipal bodies are constructing houses or developing plots to cope up with the housing shortage. Still a number of Katchi Basties & unplanned colonies are coming up. Because of the limitation of HUDCO norms the EWS and LIG houses which comprise of 70% of total houses being constructed by the RHB are one room tenements only, with provision for one more room to be added subsequently and practically no open space in the plot. So this addition to housing stock is not of minimum desirable standards. The encroachment on roads are restricting the efficiency of city roads. There is lack of facilities for truck/stand/bus stand etc. The organised parking places are almost missing. There is also lack of efficient mass transportation facilities for movement of people from one place to other. Unrelated land uses generate undesirable traffic movements leading to accidents, traffic jams etc. Emissions from motor vehicle are causing pollution. Besides the above problem, in most of the towns there is no sewerage system. Thus, unhygienic environment prevails, specially in congested old city areas. There are also problems of drainage, water supply, street lighting etc. Community facilities like schools, dispensaries, parks and open spaces are also lacking in cities. In old localities, there are practically no open spaces.

(ii) Problems of Small and Medium Towns

As majority of towns in Rajasthan are of small and medium size, the urbanisation pattern in the state very much depends on their growth and development.

These towns with vast hinter land to serve, act as catalyst for promoting overall development around them. It is through these urban centres that various technological development programmes can be successfully implemented and transmitted into the hinterland.

However, the condition of most of these towns is not satisfactory. These towns lack in proper infrastructure facilities like transportation and power & water supply, sewerage & drainage, warehousing and marketing facilities, housing colonies as well as rail and road links with important centres. The financial position of the local bodies is very weak and they are unable even to meet the expenditure needed for maintenance of services. There is no central agency to provide financial assistance and technical knowhow/guidance to enable them to take up proper urban development projects.

(iii) Problems of New Towns

In Rajasthan 44 new towns were added in 1981 census. Most of these towns are out grow villages and physical condition there, is very bad, with mud streets, lack of facilities like drainage, street, light, community facilities and services. Some new towns are also coming up due to development of economic activities like mandi towns in command area and new industrial centres, in potential resources regions. It is necessary that proper care is taken to ensure planned development of these new towns so that the problems may be solved in the initial states of development otherwise these may become acute afterward.

(iv) Problem of multiplicity of Agencies in urban areas

There are a number of agencies engaged in various development works in urban areas. Urban Improvement Trust, undertake development works within their schemes areas. The development and regulatory activities of municipal bodies is restricted to the Municipal areas only. There are other agencies like Public Works Department, Public Health Engineering Development, State Electricity Board, State Marketing Board, Industrial & Investment Corporation, Railways etc. which undertake development in the areas under their jurisdiction, but according to their own rules, regulations and standards and these are not fully integrated and coordinated. This multiplicity of agencies create problems of proper coordination in development, which is so vital for the successful implementation of any plan. The fragmented approach creates serious problems in regulating development, coordination and proper enforcement. This leads to isolated and haphazard development and defeats the very purpose of an integrated and overall planned development of the towns. It is, therefore, necessary that one unified authority be entrusted to plan, implement, regulate and coordinate all development works in the town. Such an Authority has already been established for Jaipur City namely Jaipur Development Authority.

Under the Draft Rajasthan Town and Country Planning Act, which is under the consideration of the Government, the provision for establishment of such urban development authorities in any town has been

made. The main objective of these authorities shall be to promote and secure planned development in accordance with well prepared plans. The authority shall be fully empowered to take up any development work in the town which it deems beneficial to the town and shall be regulatory, supervisory and enforcement powers.

(v) *Problems of implementation of Master Plan*

Rajasthan Urban Improvement Act, 1959 provides for preparation of Master Plan only; but does not specify the implementation part of detailing, like zoning regulations, sector plans etc. with the result most of the Master Plans, though prepared under the Act, remains only of academic interest. In the absence of provisions for enforcement and implementation of the Master Plans no forceful attempt is made to translate these plans into action. Though about 25 plans have been prepared, none of them have been successfully implemented. Thus present legal provisions are insufficient for implementation of Master Plans. In view of this the detailed provisions have been made in the Draft Rajasthan Town and Country Planning Bill so that plans are more effective and are implemented. It also provides for zoning regulations preparation of sector plans etc. It also provides for machinery to implement the plan by constitution of Development Authorities or by suitably strengthening the present local authorities.

(vi) *The role of Urban Land Ceiling Act in Urbanisation*

Urban Land Ceiling Act was enacted in Rajasthan on 17th February, 1976. This Act has failed to achieve the desired results due to certain problems and flaws in it. The final possession of land under the act is a lengthy process because before the Notification under Section 8 to 10, a number of formalities have to be followed. The effected parties approach the courts for the grant of stay. Thus it takes years to get the possession of land. A large number of housing cooperative societies have sought exemptions under section 20 of the Act. The agricultural land owners in the fear that their lands shall be acquired by the Government on a low price under this act, transferred these lands to the so called cooperative societies. Thus almost all the land proposed in the Master Plan for urbanisation, and covered under ULCAR Act got transferred like this and was not available to the Government or the Development Authority for planned urban development as per the Master Plan. The provision in the Act for construction of houses for low income people has also been misused, because, people submit the plans and get the exemptions, but do not actually construct the houses and go on applying for exemption.

(vii) *Architectural Control and Urban Conservation*

Rajasthan is fortunate to have a treasure of traditional architectural heritage in many of its towns. Almost every town has some special architectural feature of appeal. The forts, ramparts, places, parks, havelies, citygates etc. are some of the features that exist in many towns. The towns like Jaipur, Jaisalmer, Sikar, Sawai Madhopur, Nokha etc. which were planned and

built on the prevailing silp sastra, speak of their ancient grandeur. But due to rapid urban growth during recent post haphazard and unplanned development is taking place. Thus, the beauty and glamour of these architectural monuments is in danger. The massive walls which were once so magnificent and symbolic of the mighty Rajput Rulers of the medieval periods are crumbling down at places. In some of the towns the row of shops have over shadowed the citywall. The overhead telephone and electric lines spoil the character of many magnificent buildings. The State Government has passed the act namely RMASA (Rajasthan Maintenance of Archaeological Sites Act, 1961) for preservation of monuments but the preservation and maintenance requires huge expenditure as well as high degree of supervision. The Government of India may, therefore, adopt some of the monuments for better preservation.

Planning Policies for future urbanisation in Rajasthan

At present there is no definite urbanisation policy for state as a whole. Decisions are taken in isolation for various towns to deal with the current problems. An integrated and overall urbanisation pattern for the state is yet to be worked out, so that every town/settlement is planned in the overall context of the state as a whole. This will obviously, lead to the balanced development of different areas and will also control the urban sprawl of big cities. In view of this the work for preparation of State Physical Plan has been initiated.

Rajasthan Town & Country Planning Act

There is no statutory provision for the preparation of State Physical Plan and Regional Plans in the State. Urban Improvement Act, 1959, only provides for preparation of Master Plans for the towns and schemes for urban development. It does not provide for plan implementation and preparation of zoning regulations, sector plans, resource mobilisation. In view of the above, the State Town & Country Planning Act, is under consideration of the Government. A number of States have already enacted such an act. Draft Town Planning Legislation is comprehensive covering almost all the aspects of urbanisation. The main features of the act are as follows :

- (i) For balanced urban development throughout the State; state Physical Plan shall be prepared which shall state the future urbanisation policy and population distribution in relation to investment pattern and resource utilisation.
- (ii) Regional Plans for well delineated planning regions shall be prepared, stating the regional settlement development programme in relation to its resources, alongwith transport network, public facilities, industrial and other economic activities alongwith their locations.
- (iii) Master Plan for various towns shall be prepared which will include land use zoning, transportation net work, public facilities, redevelopment areas, preservation areas, ecological development, housing and other

related sectors. It will also have zoning regulations.

- (iv) The draft act provides for microlevel planning. The sector plans shall be prepared for various land use zones/sectors proposed in the Master Plans, detailed plans for various uses, road network and location of various public utilities and community facilities.
- (v) For small areas, development schemes shall be prepared for residential, commercial and other purposes as required. The local authorities shall be fully empowered to acquire, develop and dispose off the land taken up for the scheme.
- (vi) The draft Act also provides for preparation of village development plans for village Abadi areas. This will thus, be the major break through the urbanisation policy, because so far village planning has been totally neglected. The plan shall provide for various use zones, public facilities, transport network and improvement programme to be taken-up for the growth of the villages.
- (vii) In order to have successful planning, the draft of the Act emphasises on enforcement and implementation mechanism. It provides for establishment of regional development authority for coordination at regional level and urban development authorities at town level.
- (viii) Finance is the key factor in any development. Urban development to a great extent is self financing. However, the draft Act provides for the creation of 'Rajasthan Urban Development Finance Corporation' which may borrow money from any agency and float loans & provide financial assistance to local bodies for development schemes. It may also take up urban development scheme at its own. In light of above points, it may be inferred that the enactment of Rajasthan Town & Country Planning Legislation shall definitely provide a rational urbanisation policy in the State and promote planned urban growth.

ENERGY

In Rajasthan, at present generation of electricity is through conventional sources of energy. The availability of energy for urban area of different categories in 1984-85 has been as follows :—

S. No.	Category	Energy in MU
1	2	3
1. Domestic		319.587
2. Non-Domestic (Commercial)		194.528
3. Industries		1335.827
4. St. Light		22.310
5. Agriculture		146.580
6. Public Water Works		150.013
7. Sale to licences		9.900
8. Misc.		91.046
Total		2290.091

The installed/shared/allocated capacity of generating station as on 31-3-86 was 1797.86 MW, out of which 857.75 MW is Hydro, 550.11 is Thermal and 440.00 MW is Nuclear.

Separate assessment of demand for urban areas are not made. Demand is projected for the State as a whole. The year-wise demand projected for VII Five Year Plan is as under :—

Year	M. W.	M. U.
1985—86	1738	9133
1986—87	1934	10164
1987—88	2139	11245
1988—89	2357	12391
1989—90	2590	13613

Presently there is a shortfall of 28.99%. This is likely to go up to 38.67% by the end of VII Five Year Plan.

Future Programme

A number of new projects are contemplated in the State to meet the demand. These include Hydel, Thermal and Nuclear.

Hydro power stations include Mahi Project Power House No. 2 with a planned capacity of 2×45 M.W. and a number of mini-micro hydel schemes namely Anoopgarh (9 M.W.), Suratgarh (4 M.W.), R.M.C., Mangrol (6 M.W.), Jakham (9 M.W.), Charanwala (1.2 M.W.) and Pugal (2.15 M.W.). In addition, eight mini-micro hydel schemes have been cleared by CEA and are awaiting investment sanction of P/C. Eight more mini-micro Hydel schemes are at various stages of examination/investigation in the Board.

Thermal Power Stations include Kota Thermal Power Station Stage-II with a planned capacity of 2×210 M.W. In addition 2×60 MW Palana Lignite mining and thermal power station has been cleared recently by CEA and Planning Commission. Two gas-based thermal power stations one at Ramgarh, (Jaisalmer) (3 M.W.) and another at Anta, Kota (430 M.W.) are also coming up in the state. Anta Gas Thermal Project is in the Central Sector. Apart from this, project reports of five major Thermal power Stations, namely KTPS stage-III (1×210 MW), Suratgarh (420 MW), Dholpur (420 MW), Chittorgarh (420 MW) and Mandalgarh (630 MW) have been submitted to the CEA for Techno-economic sanction.

Government of India has also approved expansion of existing RAPP (440 MW) by adding 2 units of 235 M.W. each.

FINANCE

Finance is the key factor in any urban development programme. It is rather difficult to expect from the small local bodies in these towns that these will take up comprehensive urban development programmes with their non meagre financial resources. No special or separate financial assessment is made for various

development activities in urban areas. The expenditure is incurred by respective departments under their individual programme. Thus there are many agencies engaged in development activities in the town and making investments thereon. Though the local body is the main agency for town development, it is mostly engaged in maintenance of services like city roads, street lights, drainage, conservancy etc. The industrial development is done by industries department. Similarly electricity, water supply, educational and medical facilities, mandi, yards etc. are looked after by respective departments.

However the State Government is providing loan assistance for housing for L.I.G. and Middle income category to a limited extent. Government also provides loan assistance to local bodies for urban development schemes sponsored by Government of India under IDSMT programme including schemes in National Capital Region. Provision is also made in the State Plan for preparation of Master Plans, modernisation of municipal sanitation, Environment Improvement Programme in Katchi Basties and Development of Mandi towns. For the 7th Five Year Plan expected provision for such urban development programme is nearly Rs. 1500 lakhs.

ENVIRONMENT

State of Urban environment in Rajasthan is far from satisfactory. It's towns are ridden with almost all those problems which Urban environment in India as a whole suffers—degraded housing environment, inadequate basic amenities i.e. facilities of pure drinking water, proper sanitation, open spaces, transportation & so on.

These sets of problems have lowered down the quality of Urban Environment in Rajasthan. The resources available with the Government Department are insufficient to stem environmental degradation in the State.

A casual survey of the approval master plan towns would reveal that the growth of these towns has hardly respected the plans. Industries and residences, for example, have come in the green belt areas, hazards and shopping Centres in places designated for some other uses, indiscriminate mining of hill systems proposed to be preserved and Vandalism in areas of historic importance has taken place. Set backs prescribed in residential schemes have been covered, open spaces encroached upon and other building byelaws hardly complied. Visual landscapes of bigger and smaller towns are aesthetically dull and ugly. Thus non-implementation of Master Plans aggravated the situation created by shortage of supply of land, housing, infrastructure and other amenities and facilities of urban life. Deep mining in Makrana, Jodhpur and other towns has created a whole set of problems. hazardous industries in the State pose problems of safety and menace of air, water, noise and land pollution has increased to alarming proportions.

Out of 158 large and medium scale water polluting industries 61 industries have installed effluent treatment plans (33 need modification) and remaining industries have been asked to make arrangements for such

treatment plants. Rajasthan also has 7056 small scale industries which are water polluting ones. As per Water Act 1974 the industries which are not taking action for providing treatment plants, legal action is being taken against them. A total of 110 cases have been registered in various courts. Out of 16 cases decided, decision in all 11 cases was given in favour of Board. Action was also initiated under Section 133 of Cr. P.C. against 44 Industrial Units.

Out of 134 large and medium air polluting industries, 50 industries have installed treatment units. Rest of the industries are being persuaded. As a result of constant persuasion M/s Udaipur Cement Works, Udaipur and M/s. Laxmi Cement Works at Sirohi have commissioned the electrostatic precipitators at the kilns to arrest air emissions.

The State Board has also set up 5 Air monitoring station at Kota with the assistance of Central Pollution Control Board.

Problems cities from pollution angle are :—

City	Nature of Pollution	Source of Pollution
1. Kota	Air & Water	Thermal Power Plant Industrial Units
2. Udaipur	Polluting lakes	Water
3. Bhilwara	Water & Air	City Sewerage Waste
4. Mount Abu	Water	Industrial Units
5. Beawar	Water & Air	City Waste
6. Pali	Water	Industrial
7. Balotra	Water	Industrial
8. Jaipur	Air	Industrial
9. Alwar	Water	Transportation
10. Bhiwadi	Water	Industrial

First step towards remedy could be :—

- Survey of these areas.
- Provision of waste water recycling.

Deforestation

Master Plans have been prepared for five cities i.e. Jaipur (1971-91), Ajmer (1971-91), Jodhpur (1971-91), Kota (1971-91), Bikaner (1971-91). Draft Master Plans have been prepared for another 20 towns.

Cities have a very high energy demand. Fuel wood requirement, largely for urban poor and fodder for livestock are two major reasons of denudations of surrounding greens.

We need to encourage and ensure green belts around cities through proper legislative and fiscal measures. Conservation areas and open spaces in the towns need to be conserved and developed.

Sanitation

Inadequate facilities for disposal of human wastes and night soil are the main causes of urban environmental pollution.

In the State of Rajasthan there is only one sewerage treatment plant at Jaipur which treats city waste water for half the city and was commissioned in 1979 to treat waste of northern half of the city. P.H.E.D. is working on laying down the sewerage system in 5 major cities of the State—Jaipur, Jodhpur, Bikaner, Udaipur and Kota. There is no arrangement for collection and treatment of waste water in other cities/towns or villages.

From the available technical options for sanitation in urban towns :—

- (i) low cost pour flush water seal latrines,
- (ii) septic tanks,
- (iii) small bore sewerage system,
- (iv) Community latrines, a choice has to be made.

A programme of conversion of dry latrines to water pour flush type latrines is being implemented by the State Government in nearly 20 towns.

Another acute problem of city administration is ineffectiveness of municipal bodies. Despite an army of sanitation staff, roads, lawns, public places are unclean and very often unswept.

In big cities workers unions are a source of problem.

Open Space/Greens

As a rough estimate approximately more than 80% of the open space, if provided for at all; in the form of neighbourhood parks, city parks, green strips, etc., in urban Rajasthan have either been used for some other purpose or remain unutilized/unmaintained.

They fail miserably in their recreational/purification function.

Main reasons of these have been —

- (i) resource constraint
- (ii) lack of orientation in public.

Public Awareness/Participation

This is gradually picking up; Udaipur leads this movement. Department of Environment through its various programmes seeks to undertake this work. Forest Department undertakes massive plantation work every year.

Waste Recycling

This has not been taken up anywhere in the State except northern part of the city of Jaipur. Main problem has been resource constraint.

Priority/Special Problem of the State

- (i) Drinking water sources in Udaipur, Kota, Mount Abu & Pushkar are being contaminated by city waste. An effective sewerage system is immediately needed here.
- (ii) Industrial pollution in Kota, Pali, Balotra and Jodhpur need immediate attention.
- (iii) Improving resource position of cities administration and improving cleaning facilities.

2. Legislative measures for environment planning—Following major enactment exist for environmental control :—

- (i) The Water (Preservation & Control of Pollution) Act, 1977.
- (ii) The Air (Prevention & Control of Pollution) Act, 1981.
- (iii) The Rajasthan Municipality Act, 1959.
- (iv) The Rajasthan Soil and Water Conservation Act, 1964.
- (v) The Motor Vehicles Act, 1939.
- (vi) The Indian Explosives Act 1984.
- (vii) The Industries (Development & Regulation) Act, 1957.
- (viii) The Indian Forests Act, 1927.
- (ix) The Rajasthan Forest Act, 1953.

Meeting is being held by the Department of Environment with concerned officers to find out effectiveness of these legislative provisions in accordance with recommendations of Tiwari Committee.

3. Scope and dimensions of environmental protection vis-a-vis the urbanisation—to be discussed.

4. Projecting Policies/Programmes for environmental planning for 2001–2025—To be discussed.

HOUSING

The policy of the State is to meet the housing demand in full in the urban areas of the State. As per the estimate of Rajasthan Housing Board, there is a shortage of 1.5 lacs dwelling units in the urban areas. It is estimated that by 2001 nearly 15 lac additional houses will be required to meet the demand of the increased population of urban areas. Concerted efforts shall be necessary to achieve this target. Presently the main agencies that are engaged in the efforts to meet housing demands are Rajasthan Housing Board, Urban Improvement Trusts and municipalities. In addition to these main agencies, State Government, Central Government Departments, Government undertakings and some private agencies are also providing housing to some extent to their employees. Housing Board is constructing houses in 32 towns of the State which cover all the major urban centres. Housing Board proposes to extend these activities in 16 more towns in the near future. Rajasthan Housing Board has so far constructed nearly 50,000 houses out of which 32,000 have been completed and handed over to the beneficiaries. The remaining are in the process of completion and handing over of the possession.

Urban Improvement Trusts and municipalities are also constructing houses mainly for the LIG and economically weaker section. These agencies mainly develop residential areas and allot plots for construction of houses. Nearly 80,000 plots have so far been provided and 20,000 dwelling units have been constructed by these agencies. Government has provided loan assistance for another nearly 21,000 houses to individuals in low and middle income category.

Table below gives the position of plots allotted and houses constructed by these agencies.

	JDA & Units	D. L. B.	Housing Board	Distt. Collectors
1. No. of plots allotted (General Schemes)	57645	..	..	..
2. No. of plots allotted under I. D. S. M. T.	4987	..	..	..
3. No. of plots allotted in Katchi Basties.	53706	25457	..	..
4. No. of Houses allotted constructed	18982	474	50000	
5. No. of Houses constructed under:—				
(i) Low Income Groups Housing schemes	384 (JDA)	..	..	16130
(ii) Middle Income Group Housing Schemes	..	..	..	4538

Non-availability of suitable land is one of the major constraints in speedy construction of houses by the Rajasthan Housing Board or UITs and Municipalities. To meet the future increasing demand of housing, efforts shall be necessary to develop new residential areas alongwith appropriate community facilities and utility services. Relationship of these areas with the places of work and over all development of the towns shall be very necessary. Emphasis will be laid on 2 and 3 storeyed housing blocks to check urban sprawl and save precious agricultural land.

INDUSTRY

Rajasthan is at the threshold of industrial development as major industrial development programmes have been initiated in the state only during the past independence period. A number of industrial units have been established in various towns. The RIICO also developed planned industrial Estates in major towns to promote organised industrial development.

Small Scale Industries

At the end of 1985-86, there were 1.25 lakhs registered small scale industries in Rajasthan with an aggregate employment of 4.68 lakh workers and an aggregate investment of Rs. 48.782 lakhs.

It will be observed that the average size of the unit is rather small, the average investment being Rs. 0.39 lakhs and average employment 3.76 persons.

The index number of growth of small scale industry in the State is given below :

Year	1977-78-100		
	Units (Nos.)	Employment (Persons)	Investment (Lakhs Rs.)
1977-78	100	100	100
1980-81	181	151	213
1981-82	266	182	271
1982-83	335	207	335
1983-84	384	226	384
1984-85	430	244	440

The major types of industry in the small scale sector assisted by the State Financial Corporation are chemicals and chemicals products, textiles, food manufacture, non-metallic mineral products, metallic products etc.

Districts with more than five thousand registered small scale units are Jaipur, Ajmer, Alwar, Bhilwara, Jodhpur, Kota, Udaipur and Nagaur. In other words, only about one-third of the districts in the State account for more than half.

Large and Medium Industries

The State has about 250 large and medium industries. The tempo has picked up only during the last ten years or so. From 1976 to 1985, the State received 319 letters of indent and 164 licences. The categorywise licences and letters of indent are shown below :—

LETTER OF IDENT/LICENCES DURING 1976—85. (Nos.)

	Letters of Licences indent.	
1. Textile.	26	25
2. Cement.	38	9
3. Metallurgical & Engineering	64	48
4. Electronics.	47	21
5. Chemicals and Fertilisers	57	26
6. Others.	77	35
Total	319	164

The major areas where large and medium industry has grown are Kota, Jaipur, Jodhpur, Udaipur, Bhilwara, Alwar, etc. During the last decade, industrial production in the State has not only increased but diversified considerably. The State now is a major producer of synthetic yarn, cement, TV picture tubes, chemicals and fertilisers, tyres and tubes, electronic instruments, Zinc, Copper, Chopper Foils and laminates and a host of other products.

10.2 INDUSTRIAL LOCATION POLICY

Left to itself, industry generally tends to gravitate to urban areas. However, there are some industries

which must perforce locate themselves near the raw materials, like cement metallurgical smelters etc. In the case of Rajasthan, for example, the Zinc and Copper smelters had to be located at Dabari (Udaipur district) and Khetri (Jhunjhunu district) respectively. But the instrumentation complex was located at Kota which was an upcoming industrial town at that time.

The policy of *laissez faire* in industrial location leads to uncontrollable urbanisation and the attendant problems of social and economic strain. In the process, rural or semi-urban areas are either left out or swallowed by the march of industrial and urban growth. Hence is the need for strategic intervention on the part of the government to divert industrial investment to lesser developed areas. This could be of two kinds (i) persuasive and (ii) mandatory. However, if any significant dent is to be made on the problem, both carrot as well as stick have to be used effectively.

Rajasthan, like all other states has provided a package of incentives which acts as a strong persuasive force to attract industry to lesser, declared as "No Industry Districts" (NIDs) by the Central Government and are eligible for Central subsidy of 25 percent while some others are eligible for 15 percent and 10 percent Central subsidy. The State government on its own has also introduced a scheme of State subsidy on capital investment. Some details of the districts covered by these various subsidies are given below : (All subsidies are subject to ceilings and blocks to where investment on ground has exceeded Rs. 30 crore are excluded).

SUBSIDY DISTRICTS

S. No.	Scale of Subsidy	No. of districts	Total Areas (Sq. km.)	% to State areas
1.	25% Central Subsidy	4	87809	25.91
2.	15% Central Subsidy	5	77028	22.50
3.	10 % Central Subsidy	7	47674	14.06
4.	State subsidy	11	130066	38.38

The State subsidy ranges from 10 to 25 percent and distributed to large and medium industries (10 percent), Small industries (15 percent), small scale units of entrepreneurs from scheduled castes and tribes (20 percent) and tiny units (25%).

As a result of the promotional efforts and the package of incentives, industry has now started looking towards backward areas, although existence of an urban centre nearby is still a big attraction. Thus, out of the four NIDs, only one has become popular, while a majority of 15 percent subsidy districts are fairly popular.

About 20 units have also been established by RIICO in tribal areas (an area of 42046 sq. km. has been declared by State Government as Tribal Sub-Plan Area which constitutes 12.28 percent of the total area

of the State). The following Table shows the number of units sanctioned by the State Financial Corporation during the last five years :

SANCTIONS IN BACKWARD AREAS

	Backward Areas.	(No. of Units.) other Areas
1981-82	1786	1834
1982-83	2259	2089
1983-84	2439	2704
1984-85	2195	2533
1985-86	2038	1999

By way of infrastructure, RIICO which develops industrial areas in the State has developed 138 such areas which cover all the 27 districts. In addition, 37 areas which had previously been developed by the State Government have also been transferred to the Corporation. In order to attract industry to smaller places, the charges for land at some places have been kept as low as Rs. 5 per square meter.

The State Government allots scarce raw materials to small scale industries. These are Cement, Steel, Coal, non-ferrous petroleum products and chemicals.

The State has four engineering colleges, 11 polytechnics and 30 industrial training institutes. The industry generally gets the required number and type of manpower.

PROBLEMS FACED BY INDUSTRIALISATION IN THE STATE

There is a perceptible deterioration of environment at some places, like Pali and Balotra where even subsoil water has got contaminated due to effluents of textile units. Similar problems are being faced at places which have chemicals units. Incorrect location of industries or industrial areas with respect to a town, such as on windward side, or near clear water stream or reservoir, or not in relation to other land uses of the town create obvious problems of air and water pollution or generation of hazardous traffic movement, in the town, or adverse effect on the environment of certain important areas in or around a town.

REVENUE & LAND RECORDS

Land is an important input in Urban Development. Many of the urban development programmes remain unimplemented because of non-availability of land. In Rajasthan, the Revenue Department has recently transferred almost all revenue lands (Government lands) situated in the municipal limits to the respective municipal bodies. Still acquisition of private or agricultural land is necessary for compact and planned development of towns. It is essential that land should be acquired in bulk to meet the requirement of urban development for a foreseeable future. Acquisition of

land as per phased programme is a necessary pre-requisite for planned development.

Public lands inside or adjacent to town are prone to unauthorised occupation and construction. The Government and the local authorities do take action to remove these unauthorised occupation but by and large the problem has defied solution.

Land records of agricultural land are maintained by the Revenue Department of the State Government and is available at the Tehsil office level. However the record of other public lands within municipal limits are being kept with by the respective local bodies.

Problem of land acquisition

As mentioned earlier the land acquisition programme is an essential ingredient of any urban development programme. Presently the action for land acquisition is being initiated by respective department and authorities who may require land for various urban development programme. Thus there is no ready availability of land. As and when a development or construction is decided to be taken up the land acquisition proceedings are initiated. Such land acquisition activities are disjointed and not interrelated with each other. This can only be possible if there is an unified agency for acquisition of land as per the phased programme to meet the various possible land requirement of a town. The acquisition of land for urban development is presently being done under the Rajasthan Land Acquisition Act, Rajasthan Urban Improvement Act and now for Jaipur under Jaipur Development Authority Act. It is now under consideration to adopt central land

acquisition Act for all land acquisition proceedings. As per past experience the land acquisition process takes a long time. During the proceedings problems are faced such as dispute about the land to be acquired, encroachment on such land, stay orders of the Courts in connection with disputes between parties about ownership of the land. Such dispute also delay the compensation.

Provision of land for urban development programme is being made by making available Government lands wherever these are available at suitable locations. The preference is always given to the Housing schemes meant for Low Income Group and Economically Weaker Section. However, availability of Government land is not very substantial as compared to the need for urban development in the urban areas in the state as a whole. Therefore land acquisition has to be resorted to as mentioned earlier presently the land acquisition is being done at the initiative of the concerned development agency and departments.

Land Requirement for Urbanisation by 2001

It is expected that by 2001 the total urban population of the State shall increase to 160 lacs against 72.01 lacs in 1981. The land requirement for various urban uses such as residential, commercial industrial, Government offices, public facilities etc. is worked out on the basis of accepted planning norms with the objective of providing healthy living environment in the town. It has been estimated that land requirement for urban development by 2001. A.D. in the State shall be 70,000 hectares. This land is proposed to be put to intensive urban use

TABLE 1
GROWTH TRENDS IN URBAN POPULATION 1901-81.

Year	Total Population (in lakhs)	%Growth Rate	Total Urban Pop. (Lakh)	%Growth Rate in Urban Pop.	No. of Towns in State	% of urban population to total population
1901	102.94	..	15.51	..	99	15.11
1911	109.83	+5.7	14.76	+4.8	102	13.4
1921	102.93	-6.3	14.75	-0.3	110	14.3
1931	117.4	+14.15	17.29	+17.2	113	14.7
1941	138.64	+18.0	21.17	+22.4	118	15.3
1951	159.71	+15.2	29.55	+39.6	142	18.5
1961	201.56	+28.2	32.81	+11.0	145	16.3
1971	257.66	+27.8	45.44	+38.5	151	17.6
1981	342.62	+32.97	72.10	+58.7	195	21.0

TABLE 2
DISTRIBUTION OF URBAN POPULATION INTO DIFFERENT SIZES OF TOWNS.

Category of towns	1971			1981		
	No. of towns	Population in lakhs.	% of Pop.	No. of towns.	Population in lakhs.	% of total Urban pop.
Class I (100,000 & above)	7	19.02	41.87	11	33.76	46.80
Class II (50,000—100,000)	7	4.88	10.75	11	7.21	10.00
Class III (20,000—50,000)	31	9.30	20.47	52	15.74	21.80
Class IV (10,000—20,000)	64	8.98	19.77	98	13.49	18.74
Class V & VI (10,000 & below)	42	3.26	7.14	23	1.90	2.66
Total	151	45.44	100.00	195	72.10	100.00

TABLE 3
PERCENTAGE DISTRIBUTION OF URBAN POPULATION INTO DIFFERENT SIZES OF TOWNS—RAJASTHAN.

Category	1901	1911	1921	1931	1941	1951	1961	1971	1981
I	10.53	9.29	15.84	15.25	27.26	26.58	37.84	41.97	46.80
II	15.74	12.64	9.69	10.45	5.38	3.42	19.33	10.75	10.05
III	16.21	17.68	14.82	16.99	17.69	19.11	20.34	20.47	21.80
IV	21.88	21.60	18.26	20.83	18.30	15.93	21.06	19.77	18.80
V	27.77	26.97	26.77	26.20	25.01	21.74	11.87	6.78	2.46
VI	8.07	10.82	14.62	10.28	6.36	7.72	1.04	0.36	0.05

TABLE 4
URBAN PROFILE—1988

Rajasthan	341.8	7210508	58.59	201	21.14
District	Population (000)	Urban Pop.	% Growth Rate of Urban Pop. 1971—81	No. of towns	% of urban Pop. of total Population
Ajmer	1432	616406	+42.65	8	43.05
Alwar	1759	196201	+54.63	5	11.16
Banswara	886	55187	+684.13	2	6.23
Barmer	1114	98229	+74.71	3	8.82
Bharatpur	1879	321700	+56.85	12	17.12
Bhilwara	1308	188563	+62.13	6	14.42
Bikaner	840	335085	+41.30	6	39.90
Bundi	586	99829	+319.20	5	17.04
Chittorgarh	1231	162421	+415.08	8	13.20
Churu	1176	344659	+33.26	11	29.31
Dungarpur	681	44126	+624.09	2	6.48
Ganganagar	2014	418299	+82.05	16	20.77
Jaipur	3406	1250532	+67.66	18	36.72
Jaisalmer	239	32927	+35.24	2	13.78
Jalore	903	72796	+146.51	4	9.07
Jhalawar	785	91516	+198.14	6	11.66
Jhunjhunu	1193	251267	+55.07	14	21.07
Jodhpur	1651	579846	+57.46	4	35.12
Kota	1547	498094	+761.78	11	32.20
Nagpur	1624	237077	+53.00	10	14.60
Pali	1272	234765	+116.51	12	18.46
Swaimadhopur	1533	206090	+45.05	7	13.45
Sikar	1373	278936	+57.10	9	20.32
Sirohi	540	97001	+28.11	5	17.97
Tonk	784	143844	+31.73	6	18.35
Udaipur	2352	355109	+386.42	9	15.10

SIKKIM

MEMORANDUM OF URBANISATION PREPARED AND SUBMITTED TO NATIONAL COUNCIL ON URBANISATION BY LOCAL SELF GOVERNMENT AND HOUSING DEPARTMENT

1. SIKKIM—A background

Sikkim the 22nd State of the Indian Union, is bounded by Bhutan in the East, Tibet in the North, Nepal in the West and the State of West Bengal in the South. It lies between 27°—5' and 28°—10' North latitudes and 88°—4' and 88°—58' East longitudes. It stretches about 112 Kms from North to South and 64 Kms East to West, having a total area of 7096 Sq. Kms. Sikkim is a mountaneous State having wide topographical contrasts such as dense forests, hills and dales, deep gorges and snow clad peaks, torrential streams and meandering rivers. Because of varying altitudes and elevations and the quantum of rainfall averaging about 140 per annum, the climate varies from humid in the South and arctic in the North. The State is divided into four districts and four sub-divisions. There is no water, rail or air transport system to link the State with other States of

India, thus the only means of communication is road transport. The National Highway 31 'A' connecting West Bengal with Sikkim is the life line of the State.

Administratively the State is divided into four Districts. East, West, North and South. Gangtok the Capital being located in East District. There are eight notified Bazars in Sikkim and fifty five Rural Marketing Centres (Rural Bazars). The only existing Municipal Corporation of Gangtok Town had been dissolved along with the Bazar Committees i.e. the local Bodies of the eight notified Bazars have also been dissolved with the enactment of the Sikkim (Repeal and Miscellaneous Provision) Act of 1985.

2. Demographic pattern and Urban Population growth

The following statement will give a picture of distribution of 100 persons living in the Rural and Urban Areas of the Districts 1951—1981.

Districts		1951	1961	1971	1981
North District	Rural	100	100	97	97
	Urban	—	—	3	3
East District	Rural	95	88	80	69
	Urban	5	12	20	31
South District	Rural	100	100	98	93
	Urban	—	—	2	7
West District	Rural	100	100	98	98
	Urban	—	—	2	2

As regards districtwise rural and urban composition of population is concerned, it may be mentioned here than East District is the only District having some Urban population since 1951. The other Districts are having urban population only since 1971. North 2.54% South 2.30% and West 1.89%. North and West Districts recorded very negligible increase of 2.96% and 8.28% in Urban proportion of population in the year

1981 over the level of 1971. In South District, due to development of Jorethang Town and increase in area of Namchi Town, the people living in urban area has shown an increase. The growth of urban population in the East District is mainly due to the development and increase in area of Gangtok the Capital town of Sikkim.

RURAL AND URBAN COMPOSITION OF POPULATION 1981 CENSUS

(Provisional figures)

Sl. No.	State/Districts	Population 1981			Percentage of urban to total population		Decennial growth rate 1971-81		
		Total	Rural	Urban			Total	Rural	Urban
		3	4	5	6	7	8	9	10
	Sikkim	3,14,999	2,63,889	51,110	9.37	16.23	50.11	38.76	159.80
1.	North District	26,390	25,610	780	2.54	2.96	102.78	101.92	135.65
2.	East District	1,38,105	94,843	43,262	19.88	31.33	61.30	38.25	154.20
3.	South District	75,691	70,325	5,366	2.30	7.09	42.32	35.34	339.13
4.	West District	74,813	73,111	1,702	1.89	2.28	28.94	28.43	55.29

There are altogether eight, towns in Sikkim. Out of these eight towns, Gangtok is the only recognised town since 1951. All the remaining seven towns are taken as urban areas only since 1971. Though they are not fulfilling the prescribed population criteria, they possess other necessary urban characteristics and are notified bazars.

Mangan : Mangan town was classified as Urban area in 1971. The present population is almost and half times that of 1971. The increase is mainly due to development of the town, as the district headquarter and increase of Government activity.

Gangtok : The growth of Gangtok has been very rapid since 1951. The population increase for every 1000 persons was 1496 in the decade 1951-61. In the subsequent decades 1961-71 and 1971-81, the number of persons living in urban areas increased at the rate of 943 persons and 1763 persons for every 1000 population respectively. This substantial increase in the town was the result of rapid development of the town, due to factors like opening of new Government offices, increase in industrial activities, development of tourism, increase of commercial activities, etc.

Singtam : The population of this town has also doubled during the last ten years. The reason behind is due to its strategic location for transaction of business amongst the surrounding areas of east, north and south districts.

Rangpo : This is the only town where the population growth is not substantial like the other towns.

Namchi : The area of this town has increased and the town has been developed as the district headquarter, and thus the population has increased three times than the 1971 level.

Jorethang : The population of Jorethang town has increased five times from the 1971 level. The main reason for this increase is its strategic location for business transaction/planned development of the town/provision of basic urban facilities etc.

Gyalshing : The population of this town has not increased like the other towns, in spite of being the dis-

trict headquarter of the West District. The main reason being its unstrategic location as far as business transaction is concerned.

Naya Bazar : This town too, has not shown any substantial increase in population, though it is contiguous to Jorethang town. Jorethang town has replaced the importance of this town.

3. Strategy process and plan for Urban Development in Sikkim

The growth rate of Urban population is ever in the increase and in the wake of exodus of rural population to the Urban centres, the problem of slums, squatter settlements in insanitation, non existence of services like water, health, education, electricity are on the increase. These and other related social welfare service need to be provided along with shelter and employment opportunities. Satisfaction of these related needs of all the members of the Urban Community may not be the prerogative of a single organisation. It has to be done by roping in all the functional and development agencies. These agencies at the moment are operating in the functional domain according to their own objectives. These have, therefore, to be integrated into a concentrated plan of urban development. The development of small and medium towns should be planned with respect to its hinterland where it may have a number of villages with different patterns and economic activities. The development of small towns has conceived in terms of the services both economic and social which the town can render to the surrounding area and the population living therein. It will not be adequate, if a development plan only for the town is conceived, it is necessary to draw up a plan for the development of the town in relation to the projected development of its entire hinterland.

In Sikkim, Urban Development is handled by the Local Self Government and Housing Department in the absence of local bodies. Other Government departments are also involved for urban development through their own programmes. The authorities that

are directly involved in the development of the urban centres are :

I. Local Self Government & Housing Department

This department implements :—

- (a) The Sikkim Allotment of House Sites and Construction of Building (Regulation & Control) Act, 1985;
- (b) Sikkim (Repeal and Miscellaneous Provisions) Act 1985;
- (c) The Cinematograph Act 1952;
- (d) The Sikkim Housing and Development Board Act, 1974.

Various rules and notifications framed under the above Acts like Trade Licence Rules, Declaration of green belt area, sanitation rules, Building Bye-laws, etc. are enforced thereby.

The Government of Sikkim has made it a policy to prepare a master plan for all towns and urban agglomerations. Therein provisions have been made for community centres, parking places; public utility services like toilets, bathing ghats, dustbins etc.

An integrated plan (Project) for Gangtok is under preparation by Gilcon Project Services Ltd., Delhi. In this plan, the main emphasis will be laid on urban structuring and traffic planning and a perspective view for the horizon year 2000 A.D. shall be taken.

The State of Sikkim has also taken up two township Jorethang and Namchi under the Integrated Development of Small and Medium Townships Programmes. All aspects of developmental projects are being pumped in as Package Programme—Road, Drinking Water Supply, Low cost Sanitation, Electricity, Health Education etc. The Jorethang project under IDSMT has made a discernible impact. At Namchi District head-quarter South additional area have been acquired for Bazar extension and development of Township.

II. The State Housing Board

This Board was constituted under the Sikkim Housing Development Board Act, 1974. The main functions of this board are :—

- (a) Farming and execution of Housing schemes,
- (b) Acquisition and disposal of land,
The board has taken up housing schemes for the Middle Income Group and Low Income Group at Gangtok and Jorethang.
- (c) Even commercial complexes i.e. Shopping Arcade and super Market at Gangtok have been constructed.

III. State P.W.D. (Building, Water Supply, Sewerage)

This is the agency for constructing all Government buildings, provide sewerage and Water Supply to the notify Towns of Sikkim. Sewerage system for the capital town Gangtok is being implemented and it is in the completion stage.

IV. State P.W.D. (Roads & Bridges)

Most of the internal roads within the town limits are constructed and maintained by the L.S.G. & Housing Department. However, the major roads passing through the towns and forming the transport arteries are maintained by the state P.W.D. Roads.

V. State Industries Department

The primary job of this department is to look after the development of industries within the State. However, it is also developing industrial estates, within the periphery of the towns, which provides employment and economic base to these towns. Keeping in mind, the recent policy of the Central Government, regarding pollution, health hazard, traffic congestion this department is not encouraging industries that cause such hazards, to be set up within the town limits. Most of the industries are located along the national highway within a safe distance from the major towns. Industrial estates have been developed at South and East Districts in view of their strategic locations.

VI. Health and Education Department

This department provide the Urban centres with needed social infrastructure like health centres, hospitals, dispensaries, Schools and Colleges.

VII. State Power Department

This Department provides power supply to the various urban areas. Most of the towns of Sikkim have been provided with proper street lights. Within Gangtok town, the overhead power cables have been removed and this has been replaced by underground cables.

4. Environmental Sanitation and Solid Waste Management

The Government of Sikkim is endeavouring to solve the sanitation problems of the Urban Areas, and in doing so, the following services listed below have been given priority.

- I. Supply of pure and wholesome water,
- II. Provision for sanitary disposal of human excreta,
- III. Disposal of garbages,
- IV. Proper Housing.

Pure and wholesome water is an essential requirement of any town and at present most of the towns of Sikkim have been provided with drinking water facilities.

Public toilets have been provided in most of the towns of Sikkim and these toilets are cleaned and looked after Safai Karmacharies, appointed by the Government for various towns. The Urban people are also being motivated in the use of sanitary latrines connected with underground Septic tanks.

The solid waste materials arising from domestic, trade, commercial, industrial, agricultural and from public services are being collected manually and transported to the disposal sites by Government trucks. A scheme for the acquisition of land and construction of compost pits is under preparation. To tackle the problem of solid waste management emphasis is being laid on proper educational programmes and public campaigns for keeping the towns clean, and for having bold legislation and effective implementation of this legislation.

5. Issues and Suggestions

The key issue in regards to the programme of development of towns is not the availability of financial resources, but that of providing and developing management capabilities which should be able :

- (a) to plan and develop basic economic and social infrastructure within the town and its linkage with the hinterland in an appropriate manner;
- (b) to promote and support development of employment oriented activities with special attention to building up of entrepreneurship both in the town and hinterland as well.
- (c) to manage efficiently and equitably the development process, providing guidance and regulating it in a positive manner.
- (d) to make such actions a success social education amongst the people deserve priority.

For the proper development of a town the installation of a capable executive organisation must be taken up with urgency and with all seriousness.

As regards the operational part of the programme of development of towns is that traditional planning process of preparing a long-term plan will not work and will defeat the very purpose of the programme which is to anticipate development and provide for it. It takes too long, is too much involved and is likely to lag continually behind the development tempo. It is necessary to adopt a modified methodology which may quickly provide guide lines for the development of infrastructure base as well as lay down directions along with which growth could take place. It should allow growth to be promoted in an orderly manner as and when it takes place without being slowed down or hindered. Such a methodology should be evolved in detail and the executive wing of the town should be fully trained in regards to promotional and regulative aspects of this approach.

6. Public participation in plans

The main objective of urban development is to provide a healthy, efficient, and convenient living environment for the people and hence it is not only imperative to plan for them but also to involve them in all stages of planning and implementation. The people should be educated on laws related to urban development, health and hygiene, civic sense and all aspects of the effects of environmental degradation and make them involved in all such development process until involvement of people and sense of partnership is developed.

GOVERNMENT OF SIKKIM
LOCAL SELF GOVERNMENT & HOUSING DEPARTMENT
GANGTOK

ANNEXURE—A
RURAL MARKETING CENTRE

Sl. No.	Name of the RMCs	District	Population as per 1971	Population as per 1981
1.	Ranipool	East	900	1332
2.	Pakyond	Do.	900	1332
3.	Rhenock	Do.	1653	2447
4.	Rongli	Do.	950	1406
5.	Song	Do.	—	—
6.	Pachekhani	Do.	530	785
7.	Rorathang	Do.	—	—
8.	Middle Camp	Do.	—	—
9.	Machong	Do.	592	976
10.	Makha	Do.	—	—
11.	Rumtek	Do.	500	740
12.	Duga	Do.	232	343
13.	Sherathang	Do.	571	845
14.	Aritar	Do.	1564	2315
15.	Samdong	Do.	1402	2075
16.	Lingdok	Do.	662	980
17.	Penlong	Do.	269	398
18.	Melli	South	1853	2878
19.	Rabongla	Do.	552	857
20.	Damthang	Do.	231	359
21.	Temi	Do.	507	787
22.	Majitar	Do.	—	—
23.	Sumbuk	Do.	252	394
24.	Aitabarey	Do.	522	811
25.	Kitam	Do.	306	475
26.	Kewzing	Do.	411	638
27.	Yangyang	Do.	713	1107
28.	Namthang	Do.	—	—
29.	Chidam	Do.	503	781
30.	Maniram	Do.	365	567
31.	Chungthang	North	580	945
32.	Dikchu	Do.	—	—
33.	Phodong	Do.	230	37
34.	Phensong	Do.	346	563
35.	Hee-Gyathang	Do.	541	881
36.	Lachen	Do.	803	1308
37.	Lachung	Do.	1071	1743
38.	New Dikchu	Do.	—	—
39.	Chakung	West	883	1187
40.	Legship	Do.	—	—
41.	Sombarey	Do.	—	—
42.	Dentam	Do.	282	379
43.	Kaluk	Do.	—	—
44.	Soreng	Do.	1383	1859
45.	Hee	Do.	990	1330
46.	Bermiok	Do.	922	1239
47.	Sribadam	Do.	650	874
48.	Rinchenpong	Do.	797	1071
49.	Uitteray	Do.	—	—
50.	Tashiding	Do.	714	960
51.	Reshi	Do.	878	1180
52.	Rothak	Do.	285	383
53.	Yoksom	Do.	—	—
54.	Daramdin	Do.	—	—
55.	Darap	Do.	506	680

Population of 41 RMCs Average—28806

42482

Population of 41 RMCs projected,

ANNEXURE--B

Sl. No.	Declared Bazar	District
1.	Mangan	North
2.	Gangtok	East
3.	Singtam	East
4.	Hangpo	East
5.	Namchi	South
6.	Jokethang	South
7.	Gyalshing	West
8.	Naya Bazar	West

TAMIL NADU

A MEMORANDUM TO THE NATIONAL COMMISSION ON URBANISATION

INTRODUCTION

Tamil Nadu, the second highest urbanised State in the Country with its 434 urban centres is poised for further accelerated urban growth and may perhaps become the highest urbanised State soon. The State has no scope for expansion of agricultural and other related primary activities in rural areas. Good transportation links, industrial development, geographically well located major urban centres, resourceful entrepreneurs and abundant skilled manpower, coupled with the lack of opportunities in rural areas for the increasing population are all factors leading to accelerated urban growth.

A. Urban Population Growth

2. The population of India, as per the 1981 Census, is 685.18 million, of which 48.41 million live in Tamil Nadu, which constitute 7.06 percent of the total population of the country. But the area of the State, viz. 130,058 Sq. Km. forms only 3.96 percent of the total area of the country. In population the State ranks seventh following Uttar Pradesh Bihar, Maharashtra, West Bengal, Andhra Pradesh and Madhya Pradesh. In area, however, it ranks eleventh. Tamil Nadu is therefore more densely populated when compared to many other States. It has 372 persons per Sq.Km. as against 216 persons per Sq. Km. for the country as a whole. There are only four States which have a higher density than Tamil Nadu and they are Kerala

(655), West Bengal (615), Bihar (402) and Uttar Pradesh (377).

Population distribution—Rural and Urban

3. Tamil Nadu accounts for 6.18 percent of India's rural population and 9.99 percent of its urban population. This shows that the share of rural population in Tamil Nadu is less and that of urban population is more compared to the country as a whole. Out of the total population of 48.41 million, 32.46 million live in 15,831 villages and 15.95 million live in 434 urban settlements. In other words one third of the State population live in urban settlements. The percentage increase of rural population during the decade 1971-81 is 12.95 while the corresponding rate of increase of urban population is 27.98%. The rural population of the State has nearly doubled during the past 80 years. But the urban population has increased nearly five times during the same period, i.e. 1901-1981. These figures reveal the high rate of urbanisation taking place in Tamil Nadu.

4. The urban population content is 33% of the total population as against 23.78% for the country. Table 2.1 gives the percentage of urban population and number of urban agglomerations and towns in some of the more urbanised States of the Country. It may be seen that Tamil Nadu ranks second among the highly urbanised States of the Country next only to Maharashtra.

TABLE—2.1
NUMBER OF URBAN AGGLOMERATIONS, OTHER TOWNS AND PERCENTAGE OF URBAN POPULATION
TO TOTAL POPULATION IN SELECTED STATES

Sl. No.	Name of State	Urban Agglomeration	Class I to III	Class IV to VI	Percentage of Urban population to total population
1.	Maharashtra	14	113	149	3503
2.	Tamil Nadu	34	90	121	33.00
3.	Gujarat	30	54	136	31.08
4.	Karnataka	7	85	156	28.91
5.	Punjab	19	35	80	27.72
6.	West Bengal	—	—	—	26.55
7.	Andhra Pradesh	4	134	96	23.25
8.	Haryana	4	25	48	21.96
9.	Rajasthan	12	64	119	21.00
10.	Madhya Pradesh	51	52	202	20.31

Source : Census of India—1981.

5. Table 2.2 shows the growth of urban population and increase in the number of towns in Tamil Nadu over the past five decades. It may be seen that the number of towns has nearly doubled from 222 to 434 and the urban population has nearly increased four times from 4.23 million to 15.95 million. The percentage of urban population to total population has increased from 18% to 33% during the same period.

TABLE—2.2

**GROWTH OF TOWNS AND URBAN POPULATION
DURING THE PAST FIVE DECADES**

Year	Number of Towns	Population in million	Percentage to total population
1931	222	4.23	18.30
1941	257	5.17	19.70
1951	297	7.33	24.30
1961	339	8.99	26.70
1971	439	12.46	30.30
1981	434	15.95	33.00

NOTE : The slight reduction in the number of towns during 1971—81 is mainly due to merger of 23 towns with the neighbouring cities or towns.

Source : Census of India—1981

6. The distribution of Urban Population in different classes of towns shows that 62.22% of the total urban population is concentrated in 21 Class I towns. Class II and Class III Towns account for 28.48% of the total urban population. It may thus be seen that 90.7% of the total urban population of the State is concentrated in the first three categories of towns which number 151, the balance of 9.3% is distributed in 283 smaller urban settlements.

7. It is noticed that the number of towns has increased in all classes of towns in 1981, except in Class V and VI where it has decreased from 92 to 90 and 99 to 70 respectively. The highest increase is in Class II Towns where the number has increased from 27 to 41. In Class III, the number of towns has increased from 78 to 89. Class I and IV towns have recorded an increase of 4 and 7 respectively. The fact that Class II towns have shown the highest increase reveals that middle level towns in the population range of 20,000 to 49,999 (Class III) are growing faster than other towns and moving into the category of towns with a population range stipulated for Class II towns. These are the towns which require special attention in planning and development.

8. From the figures given in para 6, it is evident that concentration of urban population is in Class I to III towns which accounts for 90.7% of the total urban population. It is therefore clear that subject to corrections, if any, required to set right imbalances in the spatial distribution of settlements, higher priority should be bestowed in planning and development of the Class II and III cities and towns, which number 130. This strategy is also likely to help to slow down the growth of Class I towns.

Spatial distribution of Urban Population

9. 14.35 million (90.7%) of the total urban population of 15.95 live in 151 cities and towns classified as Class I to III towns. The remaining 1.60 million population is spread over 283 smaller towns which may at best be classified as semi-urban. Madras City Coimbatore, Madurai, Salem and Tiruchirapalli together account for nearly 35% of the total population of Class I to III towns. Madras City alone accounts for 3.3 million which is about 20% of the total urban population in the first three classes of towns. Coimbatore, Madurai, Tiruchirapalli and Salem account for 2.24 million or about 14% of the urban population in Class I to III towns.

Migration

10. Migration figures are not available. However it is observed that inter-State migration is negligible. The migration is mainly from the rural areas to urban centres and from the smaller urban centres to bigger cities and the metropolitan areas within the State.

Conclusion

11. A study of urbanisation trends and geographical peculiarities of Tamil Nadu highlight the following points :

- The State has very little scope for agricultural expansion since most of the available lands have already been brought under cultivation. Only 2.6% of total geographical area is classified as cultivable waste;
- The available surface water sources have already been fully exploited and underground water position is unsatisfactory;
- Mineral and other mining resources are scarce. The scope for mining activity is also limited;
- With modernisation of agricultural operations and innovations leading to intensive use of land, fertiliser, water, etc. labour force needed for agriculture and other rural economic activities will get further reduced;
- The above pointers lead to the conclusion that urbanisation is likely to take place at a faster rate than observed so far since any increase in the population of the State will have to depend on secondary and tertiary activities only;
- The conclusion arrived at in point 'e' above has already been proved by the fact that 33% of the total population of the State is in urban centres as per 1981 census;
- 90% of the total urban population of 15.95 million live in 151 cities and towns classified as Class I, II and III towns;
- Class III towns in the population range of +20,000 to 49,999 which are medium size towns in the State require immediate attention. It may be observed that the number of Class II towns has increased from 27

during the year 1971 to 41 in 1981, which means 14 of Class III towns have progressed to Class II towns. This trend is likely to continue in the future years also. It is therefore necessary to bestow special attention to the present Class III towns. These towns would require proper planning and development on a priority basis to facilitate their orderly growth; and

- (i) Tamil Nadu has 7 major and minor identifiable transportation corridors. It accounts for 74% of the total urban population of the State in Class I to III towns. Of these, Madras-Coimbatore, Madurai-Madurai and Madurai-Kanyakumari are the more important corridors.

B. Economic Growth

12. Tamil Nadu is deficient in mineral deposits and its forest resources are also meagre to contribute to its economic growth in any significant manner. Hydel Power Development has reached saturation point. Increasing power needs has to be met only through Thermal/Atomic Power Stations. Poor endowment of natural resources is likely to affect its industrial expansion in the future unless efforts are made for the development of industries which are 'foot loose' in character.

13. A study of the economic growth trends of the State brings out the following points :

- (a) Agriculture is the most vital constituent and the major factor in overall economic growth of the State and has a pivotal role in bringing about not only marked change in the rural scene but also in the establishment of agro-based industries. Faced with the constraints in irrigation facilities and very little scope for expansion of productive areas, the State has been concentrating on increased production through scientific technology and modern techniques. Programmes such as drought prone area programme, small farmers development programme, etc. have been initiated; and
- (b) With the limitation and constraint in the development of primary sector economic activities like agriculture, mining, forestry, etc. industrial development has become pivotal for the State's economic growth. Significant industrial development in the State started only after the year 1958, with the techno-economic survey conducted by the National Council of Applied Economic Research. The pragmatic approach in creating necessary infrastructure and climate for an orderly industrial growth has helped considerably the State's economic growth.

14. Till about the end of the First Plan the State had only a few textiles and engineering industries. But over the two decades 1950 to 1970 industrial licences were issued to over 230 Engineering Industries, 106 fertilizer and chemical industries, 100 agro-based industries and 226 other industries like paper, soap, timber products, foundry, etc. With about 1500

medium and large units and about 42,000 small scale units, Tamil Nadu is presently ranked as one of the leading States both in terms of industrial production and by value added in manufacture.

15. Cotton Textile Industry, one of the traditional industries of the State, has nearly 25% of the country's spindle capacity and accounts for 21.6% of India's cotton yarn production. Tamil Nadu produces nearly 18% of the country's cement and its 21 sugar mills account for about 10% of sugar produced in the country. Other industries and their approximate share in the country's production are commercial vehicles (24.7%); Automobile tyres (15%); Bicycles (10%); Nitrogen Fertilizers (17%); Phosphatic Fertilisers (20.8%); Caustic Soda (18.5%); Calcium Carbide (11%); etc. Besides, Tamil Nadu produces nearly 60% of the safety matches in the country, 77% of finished leather and nearly 64% of the country's leather exports are from Tamil Nadu.

16. Despite the position occupied by the State in Industrial Development, as compared with the rest of the country, some of the Districts are still industrially backward indicating an uneven industrial development. With a view to set right the imbalance the Government initiated certain measures for locating industries in backward Districts. Important example of such developments are in the towns of Tuticorin in Tirunelveli District, Salem and Mettur in Salem District, Hosur in Dharmapuri District, Ranipet-Arcot in North Arcot District.

C. Housing

17. Housing is the most important component in Urban Development. Shortage of proper housing is the main cause of slum formation and residential blight in urban areas. The housing backlog is quite large and large scale efforts and investment of resources would be required to wipe out the deficit and also to provide for the anticipated increase in urban population. No satisfactory housing statistics are available for estimating the housing shortage correctly. It is however possible to assess the housing shortage roughly by finding out the difference between the number of households and number of houses and adding to it the number of Kutchha houses and old pucca and semi-pucca houses requiring replacement.

18. The 1981 census shows that 15.95 million people live in 3,104,252 houses comprising of 3,239,322 households. The census has also enumerated 8,166 households as houseless and 7,677 households as institutional. Leaving institutional households which are mostly hostels, lodges, etc. the total number of households requiring housing is estimated as follows :

Total households in Urban Centres	3,239,322
Total number of houses in Urban Centres	3,104,252
Number of households requiring houses	135,070
Number of households in the category of houseless	8,166
Total	143,236 or 1,50,000

Kutcha houses requiring replacement

19. This category will comprise of thatched huts and other structures erected by semi-pucca material mainly in slum areas. The 1971 census shows that about 75% of the houses in the State are kutcha which is likely to be around 70% in 1981. Taking slum population in the major urban centres as an indicator it can roughly be estimated that about 40% of the houses (about 1.25 million) in urban areas are likely to constitute kutcha houses. If 50% of these houses are taken up for replacement before 2001 the number of houses required will be 6,25,000.

Replacement of the existing pucca housing stock

20. Assuming 60% of the houses in urban centres are pucca (1.85 million) and 5% of these houses will come up for replacement provision should be made for building about 1,00,000 houses under this category.

21. The shortage of backlog of houses by the year 2001, taking the existing houses and present population (1981) into account, will be as follows :

	Number of houses
1. To provide for additional households and the houseless	1,50,000
2. Replacement of Kutcha houses	6,25,000
3. Replacement of pucca houses coming up for renewal	1,00,000
Total shortage of houses	8,75,000

Housing for the additional anticipated population

22. It has been estimated that by 2001 the urban centres will have a total population of 30 million, an increase of 14 million over the population of 1981 (16 million). The 1981 census shows that the size of urban household is 4.92. Assuming this will come down to 4.5, the number of houses required by 2001 to house the additional population works out to 3.1 million. This added to the present shortage estimated in the previous para shows that 3.975 million or say, 4 million houses should be provided by the year 2001. This will call for a construction rate of 2,65,000 dwelling units annually during the next 15 years.

23. Assuming 40% of the households will come under the category of economically weaker sections and another 40% under the low income groups, the houses

to be provided annually under different categories is indicated in the following Table :

HOUSING UNITS NEEDED UNDER DIFFERENT CATEGORIES

Sl. No.	Category	Percentage of households	number of dwelling units needed to clear the backlog	number of dwelling units needed for the additional population
1.	Economically Weaker Sections	40	3,50,000	12,40,000
2.	Low Income Groups	40	3,50,000	12,40,000
3.	Middle and Higher Income Groups	20	1,75,000	6,20,000
	Total	100	8,75,000	31,00,000

Total Housing Unit needed—3.975 million or say 4.00 million

24. The housing backlog and future needs discussed in the previous paragraphs are based on a very rough assessment and is intended more to focus the magnitude of the problem rather than to arrive at accurate assessments. Housing and its various facets should constitute a subject by itself for a separate and detailed study.

D. Urban Land—Policies and Concepts

25. Land-man ratio in India was only 0.48 hectares per head in 1981 as against 0.95 in China, 4.07 in U.S.A. and 8.37 in the U.S.S.R. The ratio was 0.44 in U.K. and 0.30 hectares in the Netherlands. By 2001 the population of India is estimated to reach 950 million which will reduce the land-man ratio to 0.32 hectare per head.

26. This comparison highlights the fact that land is a scarce resource in India than in most other countries. This situation is made worse since nearly 14 percent of the land is unusable due to high altitudes slopes, ravines, swamps, etc. This will give an even more unfavourable per capita land availability of only 0.26 hectare by the turn of the century, implying a furious competition for land—both urban and rural.

27. The situation is more serious in Tamil Nadu than the national scenario. The geographical area of Tamil Nadu is 13 million hectares. If this is apportioned for the 1981 population which stood at 48 million, the land-man ratio works out to 0.27 hectares. This will further get reduced to 0.20 hectares in 2001 for the anticipated population of 64 million. By 2001 the per capita land availability (0.20) will be far below that of Netherlands (0.30), a compact country with near zero rate of population growth. The declining land-man ratio has serious implications both for the urban and rural sectors. The extremely low per capita availability of land will reflect on the urban economy, its social and economic infrastructure, its quality of life, etc. It is therefore clear that there is no time to

loose to evolve a land utilisation policy and enforce it very strictly.

28. The following Tables show how land was broadly used in India in 1981 and the broad land use break up in Tamil Nadu :

INDIA : AREA UNDER VARIOUS USES

(1980-81)

Sl. No.	Major Land Uses	area in Million hectares	Percentage in relation to total geographical area
1.	Forests	67.32	20.48
2.	Potential Arable Land	181.66	55.18
3.	Grassland, bamboo and other groves	15.39	4.70
4.	Human habitation and related uses	19.46	5.90
5.	Unusable	44.98	13.74
	Total Geographical Area	328.80	100.00

Source : Table based on information contained in the report of the Committee of Experts to prepare the draft outline of National Landuse Policy.

Note : 1. Forests include all such lands classed as forest under any legal enactment or otherwise such as reserved, protected, unclassified, private forests, etc.

2. Potential Arable Lands includes net area sown, fallow and cultivable waste land.

3. Grassland, bamboo and other Groves includes permanent pastures and grazing of animals.

4. Human habitation and related uses includes rural and urban human settlements, roads, railways and water bodies.

5. Unusable Land includes steep slopes, swamps and certain portions of desert.

AREA UNDER VARIOUS USES (1980-81)

Sl. No.	Major Land use	Area in '000 Hectares	Percentage to total Geographical area
1.	Forests	2,022	15.6
2.	Net area sown and fallow lands	7,941	61.0
3.	Cultivable waste lands	343	2.6
4.	Permanent pasture, grazing lands and lands under tree crops and groves	373	2.8
5.	Lands under non-agricultural uses including human settlements	1,747	13.5
6.	Barren and uncultivable waste lands	577	4.5
	Total Geographical Area	13,003	100.0

Source : Basic Agricultural Statistics-1983 issued by the Department of Statistics, Tamil Nadu.

29. In 1981 urban area accounted for 5.30 million hectares or 1.61% of the total geographical area of the country. In 1961, land in urban areas was 3.8 million hectares which increased to 4.30 million in 1971; and 5.30 million in 1981. In 1981 the urban population which stood at 159 million occupied an area of 5.3 million hectares, which works out to about 34,000 hectares for every million population. Between 1961 and 1981, there was an increase of 60 million people in urban areas occupying an additional area of 1.5 million hectares. This shows increase of urban land at 25,000 hectares for every million population added. The decrease in the area added for every million population may be due to two reasons, (i) increasing density in urban areas; and (ii) vacant lands within the corporate areas of the urban centres might have been utilised for development.

Urban Land Policy

30. If land on the scale needed is to be made available for urban development, it is obvious that a well thought out urban land policy should be enunciated. The aim of such a policy should be

1. to secure sufficient extent of land quickly and at a reasonable cost to meet the social needs of the community particularly of the weaker sections and the poor;
2. to evolve suitable measures for land use control in order to ensure orderly and planned development of urban centres; and
3. to recommend a set of taxation measures which will enable the authorities to mop up the unearned increase in land values for the benefit of the community and provide funds for urban development.

Prevailing Situation

31. Before evolving such an urban land policy it is necessary to survey briefly the prevailing situation regarding the powers available for land acquisition, land use control and taxation.

(i) Land Acquisition

32. Transfer of land to public ownership to ensure release of adequate lands for planned development particularly for housing and infrastructural needs are taken care of by the Central Land Acquisition Act, 1894, which has now been amended to reduce delays in making land available for development and also through other reasonable incentives like quick compensation, etc. The application of 'market value' principle renders land acquisition costly. Further lands, under this legislation, can be acquired only for specific purposes and not for the future requirements. Many acquisition proceedings have also been quashed by the Courts on the ground the acquisition is not for a public purpose.

(ii) Controlling private rights in property without compensation

33. Such powers are available under the Municipal, Corporation, Public Health and Town and Country

Planning Acts. Under the Municipal, Corporation and Public Health Acts, lands are zoned for industrial and residential uses. Powers have also been provided under the Municipal and Corporation Acts to regulate buildings and street making. But these regulations or its enforcement is not satisfactory. The Town and Country Planning Act provides for the preparation of Master Plans and Detailed Development Plans which among other things have provisions for regulating land use. Attempts are now being made to regulate land use through Master Plans and Detailed Development Plans. This Act also provides for reconstruction of plots but this provision has not been used in any significant manner so far.

(iii) Taxation Measures

34. The taxation measures having a bearing on urban land are property tax, land transfer tax, urban land tax, wealth tax and development charges. Property tax is levied by the Local Bodies on rental value of the property. Land transfer tax is levied through stamp duty at the time of registration of transfer of property. Urban Land Tax is levied on the excess land over the minimum prescribed in selected urban centres. Development charges are collected at the time of issue of planning permission for the development of a property or change of use under the Town and Country Planning Act 1971.

Measures suggested for an effective Urban Land Policy

35. It has been estimated that the annual requirement of urban land will be in the order of 20,000 hectares. Most of these lands will be inside or on the periphery of the large towns. If urban areas are to be properly planned and developed, and housing in the scale required is to be provided, land should be made available at required locations at the appropriate time at a reasonable cost. If urbanisation on the scale envisaged should take place in an orderly manner the statutory instruments now available for land acquisition, land use control and land taxation should be updated suitably to render them more effective and to meet the social needs and aspirations of the people.

(i) Land Acquisition

36. Out of the total land required for urban development and urban expansion housing will require a significant portion of the land. In fact housing is the largest consumer of land in any urban area. The obligation of providing proper housing for low income families, economically weaker sections, slum dwellers and pavement dwellers rests with the state in a welfare society. These classes of housing will have necessarily an element of subsidy. Consequently acquisition and development of land has to be resorted to in a big way to achieve the objectives. As such land acquisition is the most important aspect of the Urban Land Policy. *With the sky rocketing prices of urban land, acquisition on the principle of 'Market Value' and the complicated legal formalities of the present legislation is not likely to help the objective of acquiring land quickly and at a reasonable cost. It is therefore necessary to amend this statute. The*

amended land acquisition statute should provide for the following :

(a) Land Banking

37. Land Banking usually refers either to advance acquisition of sites for Government use or to large scale public ownership of undeveloped land planned for future urban use. Land banking provides not only for future public use but also facilitate capturing the betterment it creates. It should be made possible to purchase land to be converted from rural to urban use and pay compensation at agricultural value or present use value, which will facilitate acquisition of land at a cheaper price to provide housing for the weaker sections of the community and other infrastructural facilities needed for urban expansion.

(b) Land Readjustment

38. Land readjustment is a temporary form of public ownership. In this method a site plan for the entire area is prepared providing private building sites, plots for public uses and all expensive urban infrastructure, such as paved roads, sewers, electricity and water supply. The market value of the new building sites are estimated and just enough sites are retained by the Government for auction to repay the cost of public planning and provision of infrastructure. The original owners then get back the remaining sites in proportion to their initial contributions—usually from their original holdings. Land readjustment is the process of bartering raw land for serviced and laid out plots and is suited where Government finds it difficult to finance public infrastructure investment. This method has also the advantage of getting over the problem of irregular property boundaries. This method of converting rural land to urban sites has been found to be promising in Republic of Korea, Japan and Taiwan. Yet another modification to this procedure which is required to meet the problem of providing house sites for the weaker sections of the society is to provide for a certain percentage of plots at a subsidised cost specifically for housing weaker sections. Although this is a departure from the basic barter principle of readjustment, it would ensure more equitable distribution of urban land to meet social needs. A procedure can be evolved to compensate land owners by cash for the land taken for weaker section housing. This system of urban land development has the twin advantage of developing urban land with necessary infrastructure without the constraints of property boundaries while at the same time requiring less resources compared to total land acquisition since readjustment of land is based on barter principle.

39. The above two approaches for public ownership and development of urban land would require comprehensive amendments to the existing land Acquisition Act or a complete new piece of legislation may have to be brought about. This should be taken up on a priority basis.

(ii) Land Use Regulation

40. The five most common forms of land use regulation and control are : zoning, sub-division regulations, building regulations approval by Government Agencies

and urban planning. The first three provide a hierarchy of regulating techniques.

41. The first applies to the general structure of the whole city and is usually the least detailed. Zoning is the control employed to regulate the use of land. In its most traditional form its purpose is to ensure a proper amount of land for all the activities of a community, to fix the best location for each and to avoid the encroachment of incompatible uses. This is achieved by allocating areas for industrial, commercial, residential, agricultural and other purposes—example : Master Plans prepared for urban areas.

42. The second governs development of a raw land for residential or other purposes. They prescribe standards for plot sizes and layout, street improvements, providing private land for public purposes and other requirements in greater detail than in the zoning plan—example : Detailed Land Sub-Division Plan or Layout Plan.

43. Building regulations limit or define the way structures are to be built, rebuilt, or added and the materials to be used, the position of the building on the plot, its distance from the street, its height and depth, the use to which the building may be put to and the minimum conditions which dwellings must meet to be fit for human habitation—example : Building Rules, Layout Conditions, etc.

44. Approval of Government Agencies is the main way in which controls over development rights, sub-division and building are enforced. Building permits are issued after examining designs prepared in line with zoning, sub-division and building regulations, Government agencies also have the power to refuse permission to build. These powers are delegated to the Local Authorities.

45. The fifth of the land use regulation is the preparation and enforcement of plans for urban development. These plans are then put into operation with the use of the regulatory instruments discussed above. The plans used are : Master Plans, Detailed Development Plans and Sub-Division Plans.

46. All the land use regulations and controls discussed above are in force in the State in one form or the other. But from the experience of enforcing these regulations *what seem to be required urgently is a review of all the regulations and rules in force to simplify both the rules and the procedures to render them more effectively and generally aid development to take place speedily.* The two areas which require immediate attention are the following :

(a) Priority Zoning :

47. Large extent of vacant lands in the periphery of urban areas have been plotted out and sold in advance of provision of public infrastructure while undeveloped land exist between the cities and such peripheral areas. This has contributed to urban sprawl. Provision of infrastructure to such sprawling development is not only uneconomical but would also result in boosting the cost of land nearer the city which remain still undeveloped. It is therefore necessary

to incorporate in the Master Plans areas designated as priority zones for development which should be developed first before development in any other part can take place or permitted. Such priority zoning should include provision of prohibition of development in the other areas till they are designated at a later date as priority zones. In order to enforce priority zoning it is necessary to deny infrastructural facilities outside such areas if developments take place unauthorisedly. If the Master Plans are modified to incorporate priority zoning and prohibition of development in other areas systematic expansion of urban areas and prevention of urban sprawl can be achieved.

(b) Structure Planning

48. Structure Planning highlights the critical issues, identifies the priority investments for infrastructure, and thereby establishes the area in which growth and change should occur. The structure plan provides a framework for decision making, both in map form and in a written statement of the policies and main proposals for change. These policies, programmes and priorities for action are related to a set of desired objectives and include the arrangement and character of services, spaces and structures having an important bearing on the city expansion. Most significantly, a structure plan specifies the practical actions necessary to influence events towards these defined objective. Such structure plans should identify investment priorities and effective landuse control policies. This will mean establishment of a framework for ordering public investment priorities, focussing on programmes to meet specific basic needs and encourage generally the planning process. Preparation of structure plans may be for the priority zones discussed earlier are for specific common problems of an urban community.

(iii) Taxation

49. The various taxation measures in force which are related to urban development have been discussed earlier. It is proposed to discuss here a revised approach to property tax and the need to constitute a revolving urban development fund.

50. The present system of property tax is based on the improvements made on the land. Land value or site value has long been advocated as an alternative to total property value for the property tax base. The argument in favour of this change is that when taxation is based on the market value of land, any increase in land value automatically, increases the annual tax liability, regardless of the cause and when or whether the land changes hands. Therefore, a pure site value tax has a broader base than either betterment levies or capital gains tax. It is further argued that a high tax rate on land encourages rather than discourages investment in improvements and should deconcentrate land holdings.

51. After careful consideration of the likely effects of the alternatives, it is considered that a system of property tax should be evolved to tax both land value and improvements made by way of buildings, etc. This will mean that the property tax should consist

of two components, one on land value and the other on improvements (which includes education cess, library cess, etc.). Vacant lands in urban areas should be brought under property tax for its land value. If land value is taxed it will discourage speculation and encourage development of land already provided with infrastructure. It is not uncommon to see in cities and towns in the State a large number of developed plots lying unutilised for years, for which infrastructural facilities have already been provided (like roads, sewerage, electricity, etc.). Even in Madras city, there are large number of such plots, some of them are quite large. A tax on urban land will discourage keeping of such plots vacant for long. It will also encourage densification of urban development and discourage lavish and wasteful use of land in industries and residences. It will also discourage hoarding of urban land with a view to benefit through unearned income and speculation.

Need for a revolving Fund

52. Urban Development which should constitute a priority programme for the Government cannot be planned and implemented systematically with piecemeal budgetary allocations annually. There is need to constitute an 'Urban Development Revolving Fund' with a substantial seed capital to begin with. Taxes levied which have a bearing on urban development should be pooled into this fund and utilised for urban development.

Conclusion

53. The following are the important recommendations discussed in this chapter :

- (a) Requirement of urban land has been estimated at 20,000 hectares annually in the next 15 years;
- (b) Large scale acquisition of land in the periphery or urban centres should be resorted to. The present procedure of acquiring land for specific public purpose should be replaced by acquisition of land for urban development. Acquisition of land should not be based on the principle of market value but should be on the basis of the present use value. Large scale and acquisition should be supported by land readjustment programme which will be cheaper from the point of view of public investment and may also meet with better response from the owners of property;
- (c) Steps should be taken to amend comprehensively the Land Acquisition Act to incorporate the above provisions;
- (d) Land Use Control and Regulation should make provision for priority zoning and structure planning. These will help in prevention of urban sprawl and identify investment priorities;
- (e) Property taxation should be broadened to include both land value and improvement on land. Such a measure will enable levying a property tax on vacant land also within the urban area. This measure is likely

to discourage speculation on urban land and hasten urban development; and

- (f) Constitution of an Urban Development Revolving Fund initially with a seed capital provided by the Government and later through pooling of tax revenue relating to urban development into this fund.

E. Organisational set up needed

54. The development and investment strategies which have to be formulated for rapid urban development calls for the establishment or reorganisation of development agencies. The existing situation presents a chaotic scenario. There are a large number of implementing agencies operating in the field of urban development (example—housing alone has more than ten different agencies implementing different housing programmes). Agencies implementing road works are not aware of the programmes of water supply and drainage agencies. So also is the case with electricity and telephones. Provision of non-remunerative facilities such as parks and playfields are nobody's baby—particularly since local bodies are financially not in a position to provide and maintain such facilities. All this confusion coupled with investment getting spread very thinly has led to lopsided development and wasteful expenditure. It is therefore time to think in terms of a centralised urban development agency which will be in a position to coordinate urban development programmes in the State.

(i) Urban Development Authority

55. The functions of such an authority may include among other things the items listed below :

- (a) to formulate Urban Development Policies for the State as a whole;
- (b) to select Urban Centres for development on a priority basis;
- (c) to coordinate and allocate investments in urban areas;
- (d) to coordinate physical and economic planning in so far as it relates to urban development and have a close liaison with the planning Commission for deciding investment priorities and quantum of investments needed;
- (e) to control, supervise and give necessary policy directions to Metropolitan Development Authorities and other Urban Development Authorities; and
- (f) to maintain and operate the State Urban Development Fund.

(ii) Housing Authority

56. Housing constitute the most important component of urban development and would require a more effective approach even to achieve a part of the housing needs by the year 2001. Two important aspects of housing are (1) Provision of land at the right places sufficient in extent and at a reasonable

cost and (2) reorganisation of the Housing Board to function more effectively. The aim of the suggested reorganisation is to achieve the following goals :

- (a) Bring the entire Urban Housing Programmes under one apex organisation—a reorganised State Housing Authority;
- (b) Establish sufficient number of zonal units of the Housing Authority each to look after the housing works in the assigned districts;
- (c) Organise research and development works to reduce cost of construction, introduce new innovations, develop local materials, etc.; and
- (d) Establish factories and undertake production of prefabricated panels and other members required particularly for the economically weaker section and low income housing.

(iii) *Land Acquisition*

57. A specialist organisation should be created for purposes of large scale land acquisition and land readjustment for urban development. At present land acquisition is being undertaken in a piecemeal manner for individual schemes. This procedure has led to avoidable delays and repetition of work. If a special organisation is created for acquiring land for urban development, land can be made available for development faster. This organisation should work under the overall control of the Urban Development Authority.

(iv) *Legislation*

(a) *Land Acquisition Act*

58. The existing legal instrument for land acquisition is outdated and requires comprehensive revision. Only such a revised enactment will facilitate acquisition of land for urban development and also for land readjustment. Immediate action should be initiated to legislate a new Land Acquisition Act.

(b) *Town and Country Planning and Urban Development Act*

59. It is necessary to prepare and enact a new piece of legislation for the purposes of planning and development of urban areas. The purpose of this legislation is to provide not only for planning of urban areas but also implement urban development projects.

(v) *Urban Development Fund*

60. There is need to create a revolving fund called 'Urban Development Fund' with substantial contribution from the general fund of the State for the purposes of Urban Development and this Fund should be operated and maintained by the Urban Development Authority. It is essential that all investments in the urban centres for the purposes of providing infrastructural facilities such as housing, roads, water supply, drainage, parks and play fields, etc. are channelled through this Fund instead of independent agencies operating funds for different purposes. Only such a coordinated financing can ensure proper and systematic development of urban areas.

TRIPURA

MEMORANDUM ON PROBLEMS OF URBANISATION NATIONAL COMMISSION ON URBANISATION TOWN AND COUNTRY PLANNING ORGANISATION

1. TRIPURA—A BACKGROUND

The state of Tripura is situated almost at the extreme east of the Union of India, and surrounded on all sides by Bangladesh except a corridor in the north-east corner which connects the state with Assam vis-a-vis with rest of India.

The state is predominantly rural, the urban areas being almost confined to the western segment of the state. Almost 70 percent of the State's land area are forest and hills with different rivers and stream-lets flowing in between.

According to Government of India, area of Tripura is 10,477 sq. kms. having a border of 839 kms. with Bangladesh 53 kms. with Assam and 109 kms. with Mizoram.

The state is land-locked and is in fact a pocket of Bangladesh. There is a strip of railway line extending into Tripura for about 12 km. providing a rail head at Dharmanagar at a distance of 200 km. from Agartala, the state Headquarters. A further extension of railway line for 33 kms. upto Kumarghat is under implementation. The state is dependent on an uncertain railway system in the North East. The situation is not likely to improve until an alternative railway link from Assam is taken up and completed and railway line is extended to Agartala.

Road transport is thus the only means of communication. The national highway connecting Meghalaya and Assam with Tripura is the lifeline of the state. The single artery Assam-Agartala road has weak bridges with limitations on loads.

2. DEMOGRAPHIC PATTERN AND GROWTH OF URBANISATION

The following statement will give a picture of the State's demographic aspects.

Population of Tripura (as at the sunrise of
1st March, 1981)

District	Population		
	Total	Rural	Urban
1	2	3	4
West Tripura . . .	9,76,252	8,26,964	1,49,288
North Tripura . . .	5,41,248	5,03,816	37,432
South Tripura . . .	5,35,558	4,96,710	38,848
Total . . .	20,53,058	18,27,490	2,25,568

The Population of Tripura witnessed significant increase since the partition of the country. The population of the state since 1931 and the rate of increase over different decades are shown in the following statement.

Year	Population	variation	growth rate %
1931 . . .	3,82,450	—	—
1941 . . .	5,13,010	1,30,560	34.14
1951 . . .	6,39,029	1,26,019	24.56
1961 . . .	11,42,005	5,02,976	78.71
1971 . . .	15,56,342	4,14,337	36.28
1981 . . .	20,53,058	4,96,716	31.92

The density of population which was only 61.6 per sq. km. in 1951 increased to 198 per sq. km. by 1981. The scheduled tribes account for 29% of the total population of the state. The scheduled caste population constitutes 15.00% of the population. The percentage of scheduled tribes to the total population is much higher than the national average of 7.9%.

Tripura is thus a state consisting essentially of refugees and tribals, most of whom are well below the poverty line. It is a land of the poor.

The following table shows the population projection of Tripura.

Total and urban from 1981–2001

Year	Total population	Urban population	% of urban population
1981 . . .	20,53,058	2,25,568	10.99
1986 . . .	23,25,800	2,62,400	11.28
1991 . . .	25,80,000	3,63,600	14.09
1996 . . .	28,27,900	4,09,100	14.46
2001 . . .	30,63,600	4,54,500	14.83

Taking the decennial growth rate of population into consideration the present population of the state considering the increase during the gap between 1981 and 1985 and also considering the migration from outside the state is assessed approximately over 23 lakhs which consist of both tribals, the original inhabitants of this hilly state and the Bengalees, the

people most of whom migrated to the state from erstwhile East Pakistan (now Bangladesh).

Till 1951 there was no urban area in the state in true sense of the term except Agartala, the capital of the princely state and that Agartala too was having an area of 2.78 sq. kms. with a population of 6415 persons in 1901. The following table will give a picture of the growth of urban area in the state.

URBAN POPULATION IN THE STATE OF TRIPURA IN DIFFERENT CENSUS YEAR

Year	Population		Percentage population of Agartala town to total urban population
	All urban areas	Agartala town	
1	2	3	4
1901	6,415	6,415	100.00
1911	6,831	6,831	100.00
1921	7,743	7,743	100.00
1931	9,580	9,580	100.00
1941	17,693	17,693	100.00
1951	42,595	42,595	100.00
1961	1,02,997	54,878	53.28
1971	1,62,360	1,00,264	61.75
1981	2,25,568	1,32,186	58.60

It will appear that till 1951 Agartala was the only urban area in the state. It is because of the fact that Agartala was the capital of the princely state. After Independence and following partition of Bengal and also following merger of Tripura with the Union of India, there has been heavy influx of Bengalee refugees to the state during the early fifties. This has given sudden rise to both urban population and the population of the state as a whole as is evident from the following statement.

Year	Population	
	Rural	Urban
1951	5,96,434	42,595
1961	10,39,608	1,02,997

It is thus seen that during the decade of 1951-61 the growth of urban and state's total population has been doubled. This increased urban population have spread over 10 sub-divisional Headquarters, Agartala being one of the sub-divisional Headquarters and also state's capital. Therefore the growth of urban population except that of Agartala has been the growth of last 30 years. Before that the 9 sub-divisional Headquarters were small Ganja or Mandi having one office of the than king, one school, a market with few shops. Agartala, the capital town was the only urban area in the state before Independence. After Independence there was heavy influx of refugees from erstwhile East Pakistan who migrated to Tripura for shelter. Since most of the these families coming from East Pakistan had to resort to activities other than Agriculture for earning livelihood, concentration of such families were more in Agartala and in other areas where process of urbanisation has just started. Naturally all on a sudden there was heavy pressure

on land resulting in abnormal rise in price of land especially in the town. Therefore the migrating people had to settle in the surrounding areas of the town which were predominantly rural in character. All these areas had to be brought under the Municipality in course of time since there was persistent demand for urban services. Thus Urbanisation started in a rural base.

3. PROBLEMS RELATING TO URBANISATION OF THE CAPITAL TOWN

Agartala, owing to its regional location and its being the capital town functions as an important Financial Commercial and Distribution centre in the State. Agartala has continued to gain in importance as a nodal centre in its regional background.

To sum up the present situation of Agartala town, haphazard development in the town area is going on at a rapid rate specially on the main roads and highways. Such unbalanced growth has not only stretched the lines of communication but has also made the provision of essential municipal services and other facilities difficult for urban living. There is an undesirable mixing of land uses almost everywhere in the town. There is almost acute shortage of community facilities in major portions of the town. Enormous increase in vehicular traffic and haphazard parking of vehicles on roads are causing a serious problem to the entire traffic system specially in the existing town.

(a) Housing :

The population density within the municipal limits and in the contiguous built-up areas is quite low and population distribution is very sparse as compared to the normal standards of urbanised development. The main reason for this low density of population happens to be the abundance of single storey temporary and semi-permanent structures and comparatively bigger land holdings. The sizes of household go on increasing as one goes away from the existing town centre. It is also notable in case of Agartala that a vast majority of the residents of the town are land owners; and even the refugees settled in Agartala after partition have been settled with 'Khas' land under a regular government procedure but no criteria suggesting the maximum size of the households were applied. This has resulted in varied sizes of urban households all over the town and in the areas contiguous the town. Under these circumstances, it is found that although there is dearth of vacant lands within the town area, the density per acre is too low. The bigger urban households with minimum use potential has also resulted in soaring high land prices and low economic gain. This situation needs to be improved by laying down policy to enable the government to use the urban lands to its maximum potential of urban usage.

At present Housing is becoming an acute problem in the town for the rapid increase of population due to migration from rural areas and due to increased activities of Business, Commerce and Industry. In addition to the normal process of fragmentation of holding due to inheritance of paternal properties by

more than one survivor the problem is becoming acute due to high incidences of distressed sale of part of their holdings to buyers who offer lucrative prices. Thus some areas of the town are getting more and more congested day by day due to haphazard development. Some pockets have already been reduced to slums in this process. These slums are becoming breeding grounds of most of the environmental problems. Therefore priority is to be attached to the improvement of slum areas with the aim to improve the living conditions of slum dwellers.

The scheme of Environmental improvement of slum area has already been taken up by the Agartala Municipality. There are 12 indentified slum areas within the Municipality. The benefits extended in the said slum areas are mostly community benefits such as construction/improvement of roads, Construction/improvement pucca drains, street electrification, improvement of house sites, provision of community latrines, sinking of tubewells, improvement of houses adult education centres etc. Additional improvement and more benefits will be extended in the existing 12 slum areas during the next two decades. Further some more areas are likely to be declared as slums in future. The same benefits will be extended to those areas also as and when declared as slum. Comprehensive housing schemes are also to be prepared for arranging accommodation to lower middle class families at reasonable cost. Tripura Housing Board is engaged in preparing housing schemes in and around town to meet the housing needs of the town populace as well as of the people migrating from other parts of the state.

Till now housing activity has not been taken up at a large scale. Main constraint is inadequacy of found and Organisation. At present the housing sector is not properly organised. To meet the challenge of providing shelter to every one it is necessary to strengthen the housing sector adequately. It would also be necessary to impart training to housing personnel. Training of technical personnel is necessary especially in the field of innovative and cost reducing techniques.

Major problem in building construction is scarcity of cement. Though allocation of cement is not very low for the state, the movement of cement is very poor. Due to such poor supply most of the house constructions get delayed. It is necessary to improve supply of cement. There is skilled labour force in the state for house construction. Though the number is not adequate it should be possible to train others for taking up massive housing programmes.

At present sources of finance for housing are Budgetary grant. Fund released by General Insurance Companies as loans and Fund released by HUDCO/Financial Institutions as loans. It is considered necessary to provide interest subsidy for housing loans to persons belonging to EWS and LIG categories so that rate of interest could be limited to 5% per annum.

The cost of basic building materials for housing i.e. cement and steel is very high in this state due

to virtual absence of Railways. There is provision for road subsidy for transportation of cement upto District Headquarters. But this exists more in paper so far as this state is concerned. The matter has been brought to the notice of the concerned Authority in New Delhi on number of occasions but no result has yet been achieved. The rate of brick burning coal is very high in the state. This increases cost of bricks. For rapid urbanisation it is necessary to make available the basic materials at comparable prices.

(b) Urban Sanitation

(i) Due to haphazard growth of Agartala town, insanitary conditions developed in certain areas. Existence of huge number of dry latrines posed a serious problem for sanitation and caused health hazards. Conversion of these dry latrines into water borne latrines is of utmost necessity. Since most of the families cannot afford to change over to sanitary latrines, financial assistance in the shape of loan and grant is required to be provided. On a rough estimate about ten thousand dry latrines will have to be converted to sanitary latrines within a reasonable time limit.

The Agartala Municipality has taken up the scheme for conversion of 10,000 dughole katcha latrines into pour flush sanitary latrines. The total estimated cost of conversion is Rs. 185 lakhs which may vary due to price escalation. Regarding abolition of scavenging system in the town, the government of India is very much interested in abolishing this system of carrying night soil manually in order to release Harijan community from this sub-human task and with this end in view service latrines numbering 800 have been converted into sanitary latrines with 50% central government grant.

(ii) There is hardly any proper drainage system. Wherever there is any water logging some sort of a drain is constructed for removing the water. All such construction work is taken up on ad hoc basis in absence of a master plan for drainage which is an urgent necessity. Moreover all the existing drains are uncovered. Huge lengths of drain is katcha. Since the drains are uncovered these are being used as dustbins as domestic wastes are seen being thrown into the drains. Due to heavy rainfall there is heavy growth of weeds on the sides of katcha drains. All these add to the problem of rapid silting up of the drains, necessitating cleaning and de-silting of drains at regular intervals. A comprehensive scheme for sewerage and drainage system for the town is essential.

At present there is a total absence of drainage system, as such, within the town. The existing central storm water drain running from east to west along the Akhaura road and draining into Bangladesh, is a part of one of the oldest natural tributary to the Haora river meeting down-stream. With the advancement of the building activities in the town, this drainage channel got filled up and narrowed down to the existing size. All other major town drains have been directly connected with this central drainage channel without any definite drainage plan or study of slope

analysis. This has created stagnation of drain water in major portions of the town, and the entire drainage lines, as such, have become source of unhygienic conditions. To add up the problems the entire drainage system of the town gets choked by the back water in the river during monsoon due to very little slope along the thalweg of the Haora river which reduces the flow of water and augments the chances of heavy silting along the river beds.

(iii) Huge quantity of solid waste is being generated everyday. Collection and disposal of solid waste is becoming a problem. The gap between generation of Wastes and its collection is posing a threat to the cleanliness of the town. The existing strength of men and machine will have to be augmented to deal with the situation effectively. A Master plan for solid waste management should be prepared.

The Irrigation flood control and P.H.E. wing (PWD) has prepared preliminary project report on Sewerage, Drainage and solid waste Management at Agartala. The project area for Sewerage and Drainage is limited to the central zone of the town, which is the problem area. As per Government of India's policy the capital of each state should have efficient sewerage system within International drinking water supply and sanitation decade. As per the National decade Master plan the central zone of Agartala has been considered for Sewerage system along with an efficient surface drainage system. The central zone measuring 10.487 sq. km. having a population of 91,866 (as per 1981 census) is a plain area resembling the shape of a saucer type basin with its poor natural drainage into the river towards Bangladesh. The sewerage system involves a gravity flow through closed conduits. Considering the topography of the project area gravity flow can not be adopted for the complete sewerage system. The sewerage system of Agartala town will require a number of lift pumping stations for maintaining standard grade. The per capita cost of sewerage at Agartala, central zone, as worked out will be around Rs. 900/- and per capita cost of sewage treatment plant will be Rs. 300/-. With this yardstick and considering the probable expenditure in house connection, lifting station, flushing man holes and other sewer appurtenances the total cost of complete sewerage system for central zone of Agartala town comes to Rs. 15 crores—cost of sewerage system Rs. 11.25 crores and cost of treatment plant Rs. 3.75 crores.

The project area for Drainage system is also the central zone of the town which due to its present topographical features is facing an acute drainage problem during monsoon. The main factors are the stoppage of gravity flow due to flatter gradient and back flow of flood water from Bangladesh side during flood time together with inadequate drainage system. With the present condition it has become impossible to have the storm water discharging into Bangladesh by gravity. Based on some standard estimates, a cost of Rs. 50,000/- per acre for the drainage scheme at Agartala has been worked out. The approximate cost of the drainage system worked out to be Rs. 12.5 crores which includes Rs. 3.75 crores for storm water pumping stations including pumping main line and Rs. 8.75 crores for re-sectioning and re-grading

of existing drains including culverts and closed conduit.

Present Municipal area generates 130 M.T. of garbage daily. 40 M.T. of garbage are collected in dustbins at some important locations. For the remaining 90 M.T. of solid waste there is no arrangement for efficient collection. Municipality could make an arrangement of transporting 40 M.T. garbage daily by trucks to a nearby trenching ground at Hapania which is at a distance of about 10 k.m. from the central point of the town. The approximate garbage generation by the end of next 2 decades will be about 250 M.T. daily. The probable cost of solid waste disposal system for Agartala Municipality area will be Rs. 4 crores which will include collection and transportation of garbage which includes construction of collecting platforms, provision of bins, construction of dustbins, provision of containers etc.—Rs. 40 lakhs; provisions of Tractors with hydraulic arrangement for lifting the containers and himbers—Rs. 270 lakhs; construction of composting plants including cost of land and creation of other infrastructures like workshop, office etc.—Rs. 90 lakhs.

In summing up it may be mentioned again that total cost of Sewerage scheme at central zone of Agartala town will be Rs. 15 crores; cost of drainage scheme will be Rs. 12.5 crores and cost of solid waste disposal system will be Rs. 4 crores. Thus total cost of Sewerage, Drainage and solid waste disposal system will be Rs. 31.50 crores for which a massive source of Finance is to be sought by the state government.

(c) *Water supply*

As regards drinking water supply it has not yet been possible to make adequate drinking water supply arrangement for the entire urban population of Agartala town as yet. The existing capacity of the water supply treatment plant is 1.5 MGD which is quite inadequate in comparison to the demand and as such Agartala Municipality has taken up a Master plan with total project cost of Rs. 635.84 lakhs for improvement of water supply in the present Agartala Municipal area and adjacent areas up to the period of 2011 A.D. This will be done by optimum utilisation of surface sources (Haora river) by way of modifying the existing treatment plant of 1.5 MGD and constructing new treatment plant of 4 MGD capacity. The phase wise estimated cost of the project has been worked out as phase-I (1981-1991)=Rs. 286.00 lakhs; phase-II (1991-2001)=Rs. 214.24 lakhs and Phase-III (2001-2011)=135.60 lakhs (Total Rs. 635.84 lakhs).

The works of phase-I has already been taken up and a scheme for construction of a 4 MGD water treatment plant with flexibility of extending the same for 6 MGD water treatment plant on the south of Agartala town at a cost of Rs. 133.00 lakhs has been undertaken. So far only Rs. 122.00 lakhs has been procured through LIC loan and state government grant. The balance amount of Rs. 164 lakhs against the phase-I estimated cost, and the costs of phase-II and phase-III works totalling to Rs. 513.84 lakhs are

proposed to be procured from external financial source in view of the precarious financial conditions of Agartala Municipality as well as of the State Government.

(d) Traffic and Transportations

The rapid development of roads in Tripura resulted in shaping the location of Agartala as a nodal town, connected with all the sub-divisional Headquarters through all weather roads. Such developmental activities increased the trade and commerce as well as some Industrial and other allied activities at Agartala. As a result of rapid development of governmental, business and commercial activities in Agartala town, heavy traffic on roads have increased enormously and thus causing a serious problem to the entire traffic system specially in the existing town. To cope up the increased volume of traffic it is suggested that heavy vehicles should pass through the by-pass roads and haphazard parking in the commercial areas should be stopped. Vehicles should not be allowed to park along side the roads in commercial areas shopping centres, heavy traffic roads and such other areas. Defined areas for parking of different vehicles should be earmarked in those places. Loading and unloading should be allowed in a particular time avoiding the peak period. Widening of the roads should be done as far as practicable. Traffic islands should be free of temporary structures. Footpath stalls should be removed and alternative arrangements for their business should be provided by developing new hawker's corner or shopping centre. Agartala acts as the distribution centre of consumer goods for all the southern sub-divisions of Tripura. The bulk movement of all such goods to the southern sub-divisions take place via Agartala town and the trucks invariably halt overnight right in the heart of Agartala town creating chaos at the central area of the town. The situation is growing serious day by day and it requires immediate attention to provide for proper terminal facilities for trucks at Agartala and possibly even for by passing the goods without allowing it to enter the core of Agartala town.

The expansion of Agartala town on higher lands towards North and South creates the necessity for an integrated road circulation for future developments. Among the major traffic and Transportation schemes involving massive financial implications proposed by State PWD and Municipality are construction of a ring around greater Agartala to minimise heavy vehicular traffic in central town area; Development of a transport nagar on the eastern outskirt of the town; Construction of Bus Terminals—one on the north of Katakhal and another on the south of Haora river; Improvement and Widening of some important existing town roads etc. Implementation of these project schemes will facilitate integrated development of greater Agartala as well as solve some major existing problems of the town. A massive hunt for huge financial source for this purpose is already on.

(e) Ecology and Aesthetic

The surroundings of Agartala town have a big park like character. The balanced landscape, existing

hills, rivers, low areas etc. provide for Agartala one of the most picturesque settings. This landscape of Agartala needs to be preserved. But earth cutting on large scale from the tillas and earth filling on low lands for construction of dwelling houses are causing a problem such as, topography is being changed, natural drainage system is being disturbed, natural landscape is being adversely affected. Indiscriminate cutting of earth is causing problem to the adjacent land owners, dwelling houses, buildings, courtyards, gardens, valuable trees on the tilla lands. Above all overall aesthetic of the area is being spoilt. Hence such works should be allowed with prior permission of the competent authority after carefully examining the possibility.

Low land areas may be retained as far as possible as green belt, some may be converted into lakes so as to provide scope for fire fighting, natural beauty spots etc.

There exist some big ponds and dighis either owned by government or private parties in Agartala town. These should be well preserved and surrounded by government properties on all sides so as to avoid pollution of water by the people of the neighbourhood. Banks of the ponds and dighis may be reconstructed and elevated wherever necessary. This arrangement will provide scope for fire fighting, recreation, swimming etc. Small ponds, marshy lands etc. which are causing nuisance to the city life may be gradually filled up, the lands reclaimed thereby and used for meeting the community facilities in which the existing residential localities are deficient. These community facilities may include parks, children's play area, which may also be utilised whenever necessary for community gatherings, meetings, religious functions etc.

(f) Enforcement of Municipal laws

Enforcement of municipal laws is becoming a big problem. The problem of unauthorised parking of vehicles, encroachment on roadside lands, unauthorised construction on government and private land have assumed menacing proportions. It becomes very difficult on the part of municipal employees to stop such illegal activities. Even if court cases are instituted, delay in finalising cases frustrate the purpose. The Municipal authority should be armed with more stringent laws violation of which will liable to heavy punishment to have deterrent effect on potential offenders. For effective enforcement of municipal laws a police force may be permanently deployed with the municipal authority so that their services can be utilised at any time.

(g) Resource constraint and Administrative problems

Most of the urban bodies suffer badly due to resource constraint. The property tax is the only source of income of the Municipality. Non-property tax such as licence fees for different trades etc. is negligible. Very often the cost of collection of such taxes does not favourably compare with the collection itself. In order to augment the municipal fund the Municipality should get reasonable share of taxes

collected both by the centre and the state from the municipal area. Since the Municipality is primarily meant for rendering services to the community and not for earning revenue, grants should be given liberally so that no development projects aimed for ensuring better service to the community do not suffer for want of fund.

Since the urban bodies have been constituted under acts made under seventh schedule of the constitution they have very limited power. They do not have any scope to represent their cases before the planning commission in getting higher allocations. They should find an effective role in the process of planning. More autonomy will have to be given to combat the urban problems.

4. SMALL TOWNS OF TRIPURA

Tripura being geographically located as it is and especially consequent to the partition of India shows certain unique characteristics with respect to its towns. Almost all its towns are located at the extreme border line with Bangladesh. Secondly, they have shown uncommon demographic patterns due to the influx of

refugees from time to time. The population of the towns of Tripura have therefore not shown any consistent growth pattern and to-day it is not clear how much migration of country people to the towns would take place. Besides Agartala, there are 9 other towns in the state which are small towns in terms of size, population and urban activities. Most of these towns are handicapped by locational disadvantage. Almost all of these towns are situated on river banks and close to International boundary. There exist agricultural paddy fields in and around most of these towns which is a striking feature. These agricultural areas will have to be gradually utilised for urban development for planned expansion of the towns.

The present government after coming into power in 1978 has given due attention to the systematic and planned urbanisation with the formation of Notified Area Authority in all the 9 sub-divisional Headquarters. This is the first step towards planned urbanisation of these small towns.

The following table shows the demographic pattern of the Notified area towns.

Sl.	Name of towns	Area of town and Notified area	Population			
			1961	1971	1981	
1.	Udaipur	4.14 sq. km.	8,778	13,924	16,304	
2.	Kailashahar	6.19 sq. km.	8,575	10,602	12,938	
3.	Dharmanagar	7.77 sq. km.	13,240	16,858	20,806	
4.	Belonia	4.13 sq. km.	8,744	11,374	12,054	
5.	Khowai	4.40 sq. km.	8,782	9,338	10,722	
6.	Amarpur	3.57 sq. km.	Declared as Notified Area in 1981			7,150
7.	Sonamura	3.42 sq. km.	Declared as Notified Area in 1981			6,380
8.	Kamalpur	2.41 sq. km.	Declared as Notified Area in 1981			3,688
9.	Sabroom	2.53 sq. km.	Declared as Notified Area in 1981			3,340

5. PROBLEMS OF NOTIFIED AREA AUTHORITIES

All the 9 (nine) Notified Area in Tripura are still at their infancy. Naturally problems are very many in all the directions. The major drawbacks may be identified as :—

- (a) Dearth of fund.
- (b) Lack of Technical know-how and
- (c) Shortage of personnel and absence of Organisational set up.

The above short comings are elaborated below.

(a) *Dearth of fund* :—Because of the very tight financial position of the State it is becoming increasingly

hard to allocate a reasonable amount for the development works of the Notified Areas.

The Notified Areas are yet to have any source of sizable income of their own. As a matter of fact they are still dependant on financial support of the Government with the very meagre fund made available to them they cannot meet all ends and cannot tackle any problem in a comprehensive way.

The creation of these Notified Areas was a very much welcome decision; but the purpose is not being fully served even partly due to inadequate financial support. It is therefore proposed that Central Government may be moved to provide a reasonable amount for the development functions of the Notified Area Authorities as part of Urban Development.

(b) *Lack of Technical know-how* : A major bottleneck in the development functions of the Notified Area Authorities is the lack of technical know-how. It is the experience so far that often due to this drawback the Authorities are facing genuine difficulties even though they are not lacking in initiative. The functions of the Notified Areas being primarily Urban Development and Municipal in nature, the services of well trained technical persons like Municipal Engineer are essential who can help them in the preparation of Engineering schemes and their execution, Co-ordination etc. This is an important basic infrastructure for proper development and operation of the Notified Areas.

This aspect may be given due consideration equally by the State and Central Govt. This is becoming increasingly necessary because of the appreciation by the Central Govt. that Integrated Urban Development of small and medium towns needs greater attention. Further, the Tripura Town and Country Planning Act provides for creation of local Planning Authorities. Once equipped with the basic infrastructure, these Notified Area Authorities can function as Local Planning Authorities as well which may bring better results in Planning, Development and Planning control operations.

(c) *Shortage of personnel and absence of Organisational set up* : Primarily due to shortage of fund all the Notified Areas are at present having hardly any staff of their own. There exists no organisational set up as such. Until this is created it is really very hard for these Authorities to achieve something outstanding. It is therefore very much necessary that immediate steps are taken for creation of at least the bare minimum posts towards the creation of the Organisational set up for all the Notified areas. The attention of the Central Government may be drawn for providing funds specifically for this purpose.

6. PROBLEMS FACED BY THE SMALL TOWNS

(a) *Flood Problem*

Most of the Notified area towns are flood affected. Almost every year there is flood and sometimes it is devastating. For rescue and relief operations there is heavy pressure on state's exchequer. State Government provided embankments in most of the towns. As flood level sometimes goes higher than previous years, threats are still there. Moreover the embankments are kutchha embankments and heavy flood may damage the embankments any time which means a massacre within very short time. Therefore the existing embankments in some towns require to be strengthened by use of stone, concrete etc. In some towns the levels of approach roads to the town require to be made higher for maintaining easy and quick connection with outside so that flow of essential commodities during monsoon remains undisturbed. All these involve huge financial implications which the state's limited resource cannot meet.

(b) *Drainage*

Drainage is an acute problem in most of the towns. Due to haphazard growth of the towns, proper drain-

age system is not there. Existing drainage facilities are mostly inadequate to clear water logging during monsoon. Kutchha drains which are source of unhygienic conditions out-number pucca drains in many of the towns. Adequate number of well maintained pucca drains are essential in the entire areas of the towns. Comprehensive drainage schemes are to be prepared for each town to solve one of the most acute problems of the Notified Areas. Huge amount of fund are required for implementing these schemes.

(c) *Sanitation*

There is neither any proper sewerage system nor scavenger service in the town. The methods of disposal of night soil are septic tank system and pit system/Bore hole type through natural process. Number of water-seal sanitary latrines in the towns are much less compared to insanitary kutchha type of latrines. Of all the kutchha type of latrines the night soil is disposed through natural process. These kutchha Bore Hole/pit latrines are unhygienic and the general outlook is slowly changing in favour of replacement of the same. The general mass needs to be educated to raise the standard of public health of the towns and incentives require to be given for construction of domestic sanitary latrines and for conversion of kutchha type of latrines into sanitary ones.

(d) *Water supply*

The present water supply in the notified area town is highly inadequate and protected supply is mostly available only from roadside taps. Moreover the entire town areas are yet to be covered under protected supply in many cases. Residential connections are inadequate and that too mainly in government buildings and quarters. Augmentation of urban water supply in the Notified area towns should get top priority for meeting the present and future requirements. Master plan for augmentation of water supply in each of these towns is essential for early implementation. This will involve huge financial implications.

(e) *Housing*

The housing conditions in the Notified area towns give a clear picture of the socio-economic conditions of the people. A vast majority of the residential houses are kutchha. The remaining are mostly semi-permanent and the rest are permanent pucca structures. The kutchha houses are characterised by walls of grass, leaves reeds or bamboos, mud or wood combined with roofs of grass, leaves, reeds bamboo, thatch, mud or wood. The high incidence of kutchha houses in the towns of Tripura, using the above type of materials for the constructions of houses is based largely on the tradition of the people. These are, in fact, directly linked up with the socio-economic conditions of the people. The various factors that are usually responsible for the usage of the chief materials of constructions also include availability of local materials, climate, Rainfall, soil, geology etc. The houses of semi-permanent nature which are characterised by walls of bamboo, mud unburnt bricks or wood combined with roofs of tiles, corrugated

iron, asbestos etc. are built mostly by lower middle income group of people. The residential houses of pucca or permanent nature are built by well off people who can afford to use R.C.C. roofs and walls of burnt bricks. Due to overall poor structural conditions of residential houses the situation is worst in congested slum like areas in poverty pockets where people of economically weaker section live in huts in unhygienic conditions having inadequate civic amenities. Schemes for Improvement of such existing area should get due attention. Schemes are required to be drawn for this purpose. There is also shortage of housing in most of the towns. To remove this problem immediate housing plan for people of different strata of society requires to be taken up.

Availability of land poses serious problems in taking up housing schemes. The cost ceiling of EWS and LIG houses is quite low as per HUDCO norms compared to the cost of materials. There is also difficulty in making the cost higher as in such cases the houses may be out of reach of most of the families. It is, therefore, for consideration if it is possible to provide land free of cost or at a nominal cost especially for EWS and LIG houses. Further, construction subsidy is considered essential for EWS houses.

The local building materials are bamboo, thatch (sungrass), bricks, jhama chips, clay tiles, locally available timber etc. Stone chips are not available in sufficient quantities and as such cost is very high. Jhama chips are used extensively for different types of pucca structures. The quality of brick is quite good in the state but availability is not adequate. Bricks are manufactured mostly under the private sector. The Tripura Small Industries Corporation and few co-operative societies are also manufacturing bricks. One semi-mechanised brick plant has been set up recently by Tripura Small Industries Corporation. For roofing GCI sheet is generally used in better type of constructions. In majority of houses in the state sungrass and bamboo single roofing are used the life of which is very low. These are also subject to high fire hazards. A substitute of GCI sheet could be clay tiles. At present the tile manufacturing units are in the tiny sector without proper quality control. With proper quality control and better manufacturing process the tiles have potential to become a cheaper substitute for GCI sheets. For improving supply of bricks it is considered essential to have more brick manufacturing units under public and co-operative sectors.

If central assistance is available towards transport subsidy on the basic construction materials, a scheme may be formulated to open Materials Bank at the sub-divisional headquarters especially for cement, M.S. rods, GCI sheets and coal. Such a scheme would act as a catalyst for rapid growth and urbanisation.

For providing durable shelter to the households belonging mostly to ST/SC communities and families below poverty line it is essential to take up a massive housing programme. Which may be achieved by a series of measures. Government land may be earmarked in and around the towns, the beneficiaries

may be identified to set up co-operative societies, loans may be given to these societies for house constructions, developed land free of cost may also be given.

(f) *Economic activities and Unemployment*

Almost 80% of the State's population is below poverty line. In urban areas the picture is slightly improved. Unless there is effective plan to raise the population above poverty line, other development will have no meaning. As in other parts of the country the unemployment problem is very much acute in these towns. The number of unemployed will go on increasing as the flow of population now-a-days is from rural areas to urban areas for employment and better living. But the employment avenues in private sectors do not deserve mention. Services, business, commerce and agricultural activities are the major occupation of the town population. The government is the main source of jobs. During past few years a sizable number of unemployed have been given employment by the government. But with the limited resource state government is not in a position provide employment to all. To cope up with the situation there is urgent need to create employment opportunities in private sectors, mainly industrial sector. There are plenty of forest and agricultural resources in the state. The resources will have to be profitably exploited for industrial purposes and there will be no dearth of market for the finished products. Forest based industries have good prospects in Tripura. As agriculture forms the most important sector of Tripura's economy there are bright prospect of Agro based industries. Tripura's pineapple and oranges are known for their quality and taste. While there are already few pineapple processing units in the state there exists definite scope to establish more units. Jackfruit which grows in abundance in Tripura has not been commercially exploited so far. Not only juice extraction but jackfruit wine is also a big possibility. Some demand based industries, which have broad possibilities in the state have been identified on the basis of survey conducted by department of Industries, Tripura and various other professional agencies.

The Government of India has already declared that all the districts of Tripura along with some other districts in the country are industrially backward and therefore incentives and special central fund will be made available to promote industrial growth in those areas. This is a welcome decision for Tripura. As the unemployment problem in the state is very acute creation of more employment opportunities in the state is much felt. Hence projection on establishment of one more Jute Mill, one paper Mill and gas-based industries is to be made to create more employment opportunities.

(g) *Transport and Communication*

A basic problem of most of the urban areas is the communication with the outside world, the state capital and with the other sub-divisional Headquarters of the state. Road communication is the only means

of transportation for people and their essential commodities. Conditions of regional roads will have to be improved. New routes will also have to be built. The communication within the urban areas also need immediate attention. Development of transport terminals, Improvement and widening of existing roads, construction of new roads are to be taken up on priority basis to built the basic physical infrastructure of an urban area.

7. GENERAL CONCLUSION

It may not be possible to solve all the problems of all urban areas within a very short time. Therefore, a general policy has to be evolved in fixing field of priorities. The capital town should receive top-most priorities in matters relating to the development and improvement of the existing civic amenities, traffic and transportation schemes for removing present problems, strengthening the urban Infrastructure by implementing schemes of augmentation of drinking water supply, Sewerage and Drainage, and Solid waste management. Urban Housing is also to be given priority for providing housing facilities for the urban poor.

In other towns all the problems cannot be solved simultaneously for obvious reasons. Priority has to be attached to the improvement of slum areas and to improve the living conditions of slum dwellers. The problems of urban poor should receive the maxi-

mum attention. Present tendency shows that people come and settle in state capital from other sub-divisional towns and rural areas for better amenities and livelihood. If basic amenities and means of livelihood can be made available in the Notified area towns, migration to the state capital will be much less. To sum up, communication particularly road communication with outside areas, communication within the urban areas will have to be improved, avenues for employment of educated, half educated, illiterate unemployed will have to be widened by way of setting up Industry etc. and by taking up suitable self-employment schemes, housing schemes for setting up organised housing colonies for people of different strata of life will be required. Flood protection measures will have to be strengthened, Drinking water supply and Electric supply will have to be improved, adequate Drainage system to be developed and suitable schemes for beautification of town and for improvement of cultural sphere will have to be drawn up.

Notified Area Authorities are not equipped with the required infrastructure and therefore not in a position to shoulder these responsibilities. It is also difficult for the state government with its limited resources to come forward to aid all these requirements.

It is hoped that an integrated policy of urbanisation at national level will be adopted which will meet the demand of the present situation and create healthy urbanisation.

UTTAR PRADESH

MEMORANDUM TO THE NATIONAL COMMISSION ON URBANISATION HOUSING AND URBAN DEVELOPMENT DEPARTMENT

March 1986

INTRODUCTION

There is clearly a growing realisation at all levels about the most appropriate and rational approach to the challenge posed by rapid urbanisation. Accelerated economic change coupled with rapid urban growth have exacerbated shortages in housing, public services and employment to such an extent that urgent steps are needed to control and guide future urban developments in a balanced way. The mounting urban problems are a sequel to a massive population shift that has been taking place from the rural areas in search of employment and facilities. The task of accommodating this unprecedented increase in the number of urban dwellers and improving their living standards poses a major challenge not only for urban development but also for national development in general.

DEMOGRAPHIC TRENDS OF URBANISATION IN UTTAR PRADESH :

2. The 1981 census indicated that Uttar Pradesh, the largest populated State in India had a population of 110.86 million. Its population has grown from 48.63

million in 1901 to 110.86 million by 1981. The annual growth rate of population over the preceding decade was 2.30% as compared to the all India growth rate of 2.24% during the same period. In a similar way, the urban population in the State grew from 5.39 million in 1901 to 19.90 million by 1981. The increase in the percentage of urban population during the decade ending in 1981 has been from 14.02% to 18.01%. The annual rate of growth of urban population over the preceding decade was 4.9% as compared to the all India growth rate of 3.85% per annum. There were a total of 659 urban areas in the State (including 26 urban agglomerations) in 1981 as compared to 293 urban areas (including 22 agglomerations) in 1971. Thus there was an increase of 124.9% in the number of urban settlements during 1971-81.

3. With an increasing rate of population growth a greater mobility has been noticed in the urban areas absorbing a large proportion of population increase. Nearly 51.4% of the total urban population in the state was covered by 30 class-I cities in the State in 1981 in comparison to 57.1% held by 22 urban class-I cities in 1971. Table below shows the distribution of urban population in the state for 1971 and 1981 by size class of towns :

TABLE 1
DISTRIBUTION OF POPULATION BY SIZE CLASS OF TOWNS

Size Class of town	% Distribution of Population		No. of Towns	
	1971	1981	1971	1981
Class-I (1 lac and above)	57.06	51.39	22	30
Class-II (50000—99999)	10.83	12.43	20	36
Class-III (20000—49999)	16.70	12.64	67	86
Class-IV (10000—19999)	10.44	13.40	91	194
Class-V (5000—9999)	4.74	8.70	80	232
Class-VI (below 5000)	0.23	1.44	13	81
Total	100.00	100.00	293	659

4. The State has been divided into five Economic Regions viz. Western Central, Eastern, Bundelkhand and Hill. About 46.9% of the urban population of the State was contained by the Western Region followed by 22.4% in the Eastern Region and 20.8% in the Central Region. Of the 30 class I cities in the State, 19 cities were located in the Western Region, 7 cities in the Eastern Region, 2 cities (the only metropolitan cities) in the Central Region and 1 each in the Bundelkhand and Hill regions. Spatially there was one urban centre per 252 sq. Km. of geographical area in the Western region followed by one urban centre per 417 sq. Km., 477 sq. Km. and 566 sq. Km. for the Central, Eastern, Hill and Bundelkhand regions respectively.

5. Given continuing expansion trends in population, the State is anticipated to have an urban population of 25.44 million (20.05% of total state population) in 1986, 32.42 million (23.34% of State population) in 1991 and 52.6 million (30.2% of State Population) by 2001. During 1981-1991 an equivalent of 44.75% of State population growth is anticipated to take place in the urban areas.

ECONOMIC DEVELOPMENT OF UTTAR PRADESH :

6. The economy of the State is largely based on agriculture. The primary sector accounted for 50.8% of State income followed by 18.9% under secondary sector during 1980-81. Primary sector accounted for 78% of the total working force as per 1971 census with 14% in tertiary sector and about 8% in secondary activities. In the urban areas these percentages were roughly 10.56%, 60.97% and 28.47% respectively. The total number of main workers in the State urban areas increased roughly by 5 million during 1971-81. During 1970-82 the industrial production index (base 1970-71=100) has risen to 204. An analysis of the sectoral growth rates between 1960-80 show that the overall growth rates in the sectors were 2.7% for the State as compared to 3.4% of all India as shown in table No. 2.

TABLE 2

SECTOR WISE AVERAGE ANNUAL GROWTH RATES OF NET DOMESTIC PRODUCTS, 1960-61 TO 1980-81

Sector	Annual Growth rate	
	U.P.	India
1. Primary	1.8	1.9
2. Secondary	5.7	4.5
3. Tertiary	3.2	5.2
Total	2.7	3.4

7. While the State economy has for many decades lagged behind the growth of the rest of India, in recent years it increased at a slightly faster rate. For

example, in the V Plan period from 1974-75 to 1978-79 it was 5.7% p.a. (compared to national average of 5.2% p.a.) and the target for the Sixth Plan was 6.0% p.a. (compared to national average of 5.2% p.a.). This relative lag in economic development was not attributable to poor agriculture or to industrial sector performance. It was mainly as a result of poor performance in service sectors which are predominantly urban in their location and characteristics, such as storage, communications, banking, public administration, transport and other services. Moreover these sectors have continued to lag behind. But in most recent times some of the industrial sectors which are also urban in location have shown remarkable growth and this has accounted for the raising of overall State growth rate to about the national average. These rapidly growth sectors include chemicals, machinery, transport equipment, non-metallic products and miscellaneous manufacturing.

8. The contribution of agricultural sector which declined from 60.2% to 59.8% during 1960-80 is likely to decline further during the Seventh Five Year Plan period and followed by a steady increase in the contribution of manufacturing sector. It is anticipated that by 1989-90 the State income structure would constitute 47.8% from agricultural sector, 16.2% from secondary sector and 36% from tertiary sector.

9. The Western region leads the others in most instance and may be regarded as the most economically advanced of the five. The Central region falls behind the Western. The Eastern falls behind the Central. The Hills and Bundelkhand are the most depressed regions. The reasons for the superior economic position of Western U.P. are many, but they rely in large measure on the greater agricultural productivity of this area which has had two beneficial effects. First it has raised local incomes which in turn has led to growth in local manufacturing and service activities. Second, the greater agricultural production has led to developments of agro-industries in the region. Another significant advantage of Western U.P. is that for parts of the region in the west, proximity to Delhi and inclusion within the Delhi economy has led to industrialisation opportunities not available elsewhere.

10. The economic performance of the different regions of U.P. is reflected in the Population growth rates of the urban areas in the regions. There has been a general shift to urban areas in all regions. But over the decade 1971-81, the Western region has the fastest rate of growth in urban population at 5.1% p.a. (apart from Bundelkhand which was also faster, but from an extremely low economic base).

TABLE 3
REGIONAL POPULATION AND LEVEL OF URBANISATION

Region	Total population (million)		Urban Population (million)		% of Urban Population to total Population		Annual rate of Urban Growth 1971-81
	1971	1981	1971	1981	1971	1981	
Hill	3.82	4.81	0.56	0.89	14.7	18.4	4.68
Western	31.31	39.35	5.72	9.33	18.3	22.8	5.05
Central	15.74	19.70	2.74	4.15	17.4	21.4	4.41
Eastern	33.18	41.58	2.74	4.45	8.2	10.7	4.94
Bundelkhand	4.29	5.44	0.62	1.08	14.7	19.9	5.57
Total	88.34	110.88	12.38	19.90	14.02	18.01	4.90

Source : Census of India, 1981.

11. The Western region also has more urban areas than the others. Taking class-I, II and III towns and cities together, which cover all those urban areas in excess of 20,000 population, the Western region contains only one of the five largest cities of U.P. namely Agra (population 0.77 m. in 1981). The other four are located in Central-Kanpur (population 1.69 m.) and Lucknow (population 1.01 m.) and Eastern regions—Allahabad (population 0.64 m.) and Varanasi (population 0.79 m.). Thus, the more sustained economic and urban growth of the Western region compared with the others has taken place in many towns and cities which are of medium size principally in the city size range of 50,000 to 2,00,000 population where the absolute population growth in each case is less than in the five largest cities. Four of the five largest cities where the absolute growth rates are largest, are not located in this most economically promising Western region.

12. The less developed regions of U.P. do contain a few of these medium sized towns which are growing. These are widely dispersed and have special features which may account for their growth, for example, they act as transport centres, pilgrim places or have institutions such as colleges or public administration. Unlike most of the Western U.P. medium sized towns, their viability does not arise from the inherent economic advantages of the regions in which they are located. A basic assumption is that, by and large, supporting tertiary sector activities to serve the rural economy would be dominant in urban areas.

PERSPECTIVES OF FUTURE URBANISATION

13. The recent spurt in urbanization reflects a high rate of migration which is more than 1.5% per annum. Concurrently the fact that the proportion of population in class-I cities in 1981 has reduced as compared to 1971 suggests that urban growth has been rapid in small and medium towns too (population less than 1 lakh). It is also evident that almost all the economic regions of the State have registered a rapid urban growth on account of major public investments

in industry and increased agricultural production. It seems apparent that given demand for labour in urban areas, rural urban migration is likely to take place quite rapidly in both prosperous and lesser developed agricultural regions.

14. It does not appear possible that the rapid rise in rural population through demographic growth can be fully absorbed in agricultural sector to ensure growth in agricultural production. The recent spurt in the State's urbanisation is a reflection of major structural changes in the economy. If the moderately high growth rates in the class-I (above 1 lakh population) and class-II (50,000-1,00,000 population) towns are indicative of these as regional nodes, the exceptionally high growth rates of class IV to class VI towns (below 20,000 population) are indicative of great structural changes in basic pattern of the economy, which is pushing rural people to urban areas and have created 366 new urban centres during 1971-81. The indications are that with agricultural growth, as income increases subsequently and further productivity changes occur, the rate of urbanisation is expected to accelerate. The evidence particularly from the last decade, suggests that both agricultural growth and relative lack of it are likely to contribute towards further urbanisation in the foreseeable future.

15. The implications of this rate of change in urban population are very striking for the rise in urban labour force. The additions to urban labour force would keep increasing to an anticipated 2 to 3 million by 1996-2001. Despite a lower labour force participation rate, during the Seventh Five Year Plan (1985-90) itself, over 2.5 lakhs urban jobs may have to be created annually. This calls for special attention to the problems of urban employment in the next 15 years. In the context of the agricultural sector's basic response to new technology, therefore, the thrust should be on rapid expansion of non-agricultural employment assisted programmes through promotion of education and technological skills at urban and semi-urban nodes distributed over a regional or sub-regional level.

16. In view of wide rural urban gaps as well as rapid spurt of urbanisation in general, it is apparent that efforts at regional diffusion of economic benefits must be built around urban-inspired models at regional or sub-regional levels. There is a need to identify regional economic and urban systems and the physical and investment plans dovetailed at the regional level and then fed into the State level plans. Recognition would, however, have to be given to the metropolitan centres, since such cities are not only wedded to their regions but they perform national level functions too.

17. For long it has been anticipated that economic growth is dependent on the major investment on agriculture, irrigation, power development, mining and manufacturing, transport and communication. The fact that urban development is as much an essential infrastructure as power or transport and communications has not received due attention. Unless the investments in the key sectors—like agriculture, mining and manufacturing are backed up with a build-up of adequate urban infrastructure in the form of market towns, service towns, transport nodes, warehousing etc, the investments may be unable to produce the necessary returns.

NATURE OF URBAN GROWTH :

18. The urban growth of U.P. is a consequence of rural-to-urban migration. Unfortunately, the 1981 Census does not provide a statistical account of immigration. The in-migration patterns have to be inferred from demographic changes. The most plausible in-migration hypothesis is that population is "pushed" from the rural areas by extremely poor living conditions and intense pressure on the land. The typical process might be for the male head of the household to travel to an urban area to seek employment and, once settled, bringing the remainder of the family to join him. It seems evident from what little evidence there is that existing immigration patterns have an in-built and self-sustaining mechanism derived from this kind of socio-economic process of population movement. The implication of this process is that urban areas that have grown efficiently in the recent past will continue to do so. Occupations mainly in which the migrants get absorbed are petty retail trades, domestic services, peddled transport servicing for carrying people, goods or anything and governmental administration. The almost daily proliferation of retail outlets, petty traders and road side vendors carrying on adhoc or free-lance trading to speak, occupies a disproportionately large proportion of population considering the low productivity attached to or accruing from such activities. Much of wholesale trade on many edibles, fruit and vegetables is also similarly conducted requiring in addition to a variety of middle men, a large number of labourers for carting, loading and unloading, etc. The ease with which entry into such trading pursuits or in activities ancillary to these, is obtained is perhaps the first and the biggest cushion between uprooted migrants and the cities. The choice of urban area in which to settle by the first immigrant may have some regard

to the economic opportunities in that town or city. But once installed, the population change consequent upon the initial immigration decision need not have regard to economic opportunities. The second type is that of turn-over migrations which involves influx of skilled workers in search of jobs in the organised sector ranging from administrative, banking, industrial etc. consequent upon better economic opportunities from town to town and, therefore, subject to mobility.

19. Another category of urban area growth derives from the essentially "new" urban area. This arises from two main factors. The first is where there is exploitation of some local economic endowment which leads to urban growth, the most notable example of which is at Shaktinagar in the south-east corner of the State bordering Madhya Pradesh and Bihar. In this remote area there is giant coal-field which, by the year 2000, may be producing considerable amount of coal per annum. The Government is planning a number of power stations and other industrial developments which require coal and/or electric power. The consequential urban growth will be substantial and should be properly planned for. The linkage between industrialisation and urbanisation becomes particularly relevant here to effectuate planned development of settlements springing up due to industrial locations. Within the parameters of a rapid shift of an agricultural society to an industrial one, there are bound to be areas emerging with high physical urbanisation but low social urbanisation. A significant part of the urbanisation process around such work centres really develops into a sort of subsistence form of urbanisation. Sporadic or seasonal unemployment at very low levels of productivity is the key element in such low-income areas and, in the creation and maintenance of poor housing and services, around industrial locations.

20. The second instance of new urban growth derives from the State's industrial location policies to place certain manufacturing enterprises in backward areas in order to create employment opportunities and help to arrest the immigration to the urban areas. This has been motivated by policy questions not only about how to cope up with the rising demand for services in major cities and capping city growth by channelising future growth to other less concentrated areas of the State, but also by other social and political goals like greater balance between regions, employment opportunities and question of political unity, etc. Strict economic efficiency may not be one of its objectives. The policy focus is based on the premise that manufacturing activity is the driving force behind regional development and is in tune with a widely accepted theory that the development of certain manufacturing activity influences the development of other industries in a region and is followed by population growth and then by service sector activities. Thus spatial policies aimed are based on the belief that influencing these activities away from large cities will have two beneficial effects viz., they will slow down the growth of large cities thus improving the quality of life there, and, they would also stimulate development in other areas of the State, creating a more equitable geographical distribution of economic activities. It has

however been experienced that creating industrial potentialities in backward locations may result in high per job subsidy. It has been found from Rural Industrialization Project (RIP) programmes that locating capital intensive industries in such regions having no inherent economic advantages have resulted in a sort of space islands having low linkages with the hinterland. Further although accurate data are not available, whatever meagre evidence is there suggests that site attributes have played a large role in the decision of firms to locate or relocate. In view of low levels of economic development in general, urban agglomerations have played a crucial role in the choice of sites or entrepreneurships in view of availability of market, skilled labour, infrastructure and shorter commuting distances etc.

URBAN PLANNING, ADMINISTRATION AND FINANCE

21. Responsibility for planning and implementing most urban sector policies and programmes is at the State level. The Central Government however establishes the broad principles, and also provides advice, loans and grants for various centrally sponsored housing and urban development projects. In addition, the Housing and Urban Development Corporation—an autonomous body created at the Centre also provides financial assistance to local level agencies for specific types of urban projects.

22. Much of the investments in urban areas are being dealt under different departments having fragmented responsibilities and in a majority of cases are being done under sectoral priorities assigned to them for different implementing agencies. The sources of funds for various investing agencies are different such as local tax resources for local authorities, State Plan allocations for government departments, plan allocations and institutional finances raised by the functional quasi-government agencies, and central resources for central government departments. This multiplicity of sources of funds makes effective allocation of all available resources for a given area difficult to achieve.

23. Resource allocation for State agencies is largely done in the five year cycle of State Plan formulation. However, actual investments in a given area are based on the annual budget followed by the individual agency. Although resource allocation takes place in a five year cycle (with a short term annual budget sub-set), investment in most infrastructure projects requires long gestation period. The project formulation itself is a time consuming activity to which the actual investment are required to be related. In most circumstances there is no single agency at the local level which could project the demand for infrastructure needs, translate it into resource requirements, and set up priorities within the local context.

24. State Government development expenditure in the "Urban Development" sector is included mainly in the budget of the State Housing and Urban Development Department. The Department allocate funds from the State and Central Government sources for

various urban development schemes to State and Local level agencies. Under its administrative control responsibility for urban planning, administration and finance is shared by a number of agencies viz., the Municipal Corporations, the Municipal Board, Town Area Committee, Notified Area Committees, the Jal Nigam and the Jal Sansthan, the Directorate of Local Bodies, the Directorate of Urban Land Ceiling, the Town and Country Planning Department, the Development Authorities, the U.P. Housing and Development Board, and the Prescribed Authorities for Regulated Areas. Coordination among all these agencies is ensured by the State Housing and Urban Development Department, which oversees municipal budgets and staffing and controls urban development programmes of the different concerned agencies.

25. The responsibilities for maintenance and operation of urban services mainly rest with the local bodies, i.e., the Municipal Corporations and the Municipal Boards. Although the quality and nature of services provided by the municipal bodies vary from city to city, the level of services have been affected by lack of finances. Municipal revenues depend heavily on the octroi tax, property tax and revenue grants from the State which are utilised for maintenance of local services. Revenues generally fall short of providing adequate urban services. In most cities cost of producing water is not adequately met. Improvements in services are therefore, desirable for achieving higher standards of existing services through improved management. So also Housing and Development Board and various Development Authorities need to improve in operation, accounting and management system.

MECHANISMS OF URBAN DEVELOPMENT :

26. At present there has been very little by way of an explicit urban policy at the State level. A major scheme has been the preparation of master plans for a number of large cities, but these have largely remained ineffective because of the lack of linkages in the preparation of these plans with investment planning at the city or State levels. The main interventions have been in metropolitan cities and State capital projects, and under slum improvement schemes. In these cases investments have been made either in response to major service deficits which could no longer be ignored or in accordance with State level priorities of developments investments have been made in the provisions of relatively high level of infrastructure. Other investments of a high standard have been made in the establishment of new townships for large public sector enterprises.

27. More recently from September, 1979, the Government of India have launched the scheme of Integrated Development of Small and Medium Towns (IDSMT) for the towns having 1 lac population and below as per 1971 census under which 26 towns in the State are under implementation. The objective is to increase the rate of growth of small and medium towns so as to enable them to act as growth and service centres for the rural hinterland and to reduce the rate of migration to the metropolitan cities. The

scheme envisages increased investments on the provision of infrastructure and other essential facilities. The scheme provides central loan assistance for selected items of development to the State Governments and Union Territories on a matching basis so as to serve the integrated development of selected small and medium towns during the plan period. The loan assistance is subjected to a maximum of Rs. 100 lacs per town with shares of Central, State and Local body to the tune of 40, 40 and 20 respectively.

28. The components eligible for central assistance on matching basis are land acquisition and development (including development of Sites and Services with or without core housing), Traffic and Transportation to sub-serve the shelter and employment projects including construction of roads and improvement/upgradation of existing roads; development of mandis/markets, industrial estates, service and processing facilities for the benefit of agricultural and rural development in the hinterland. Later on a component of low-cost sanitation has also been made eligible for central assistance under normal terms and conditions of State scheme of low-cost sanitation. The selected components for which funds are to be found from the State Plans are slum improvement/upgradation, urban renewal and small scale employment generation activity, low cost scheme of water supply, sewerage, drainage and sanitation; preventive medical facilities and health care; parks and play grounds and assistance for the purpose of making modifications, wherever necessary, in city masters plans to permit mixed land uses.

29. The urban development sector of the State consists principally of towns and regional planning (preparation part only), certain remuneratives (shops) and non-remunerative schemes, environmental improvement of slums scheme, the IDSMT, the Kanpur Urban Development Project (KUDP) and National Capital Region (U.P. Sub region). In the IDSMT which is centrally sponsored scheme emphasis is more on residential and commercial schemes and to certain extent on road scheme. In the KUDP, which is a World Bank assisted project, an integrated approach has been adopted covering mainly the component of sites and services, slum upgrading environmental sanitation and technical assistance and training component. Much of the investments in urban housing like : EWS, LIG, MIG and HIG, etc., are covered by the State sector plan head "Urban housing" under the Housing Department. Works in the field of water supply and sewerage for the IDSMT schemes and also in the KUDP scheme are largely in the State sector and implemented by the U.P. Jal Nigam. For the sector a different head has been provided in the State Plan under "Urban water supply" and "Urban Sanitation". Urban health and medical facilities and urban transport is largely met under the broad State sector of "Medical and Public Health" and "Transport and Communication" under different departments. Under the latter bus transport is dealt by the U.P.S.R.T.C. at the State level. For both the sectors of "Medical Health Facilities and Transport" no separate head is allocated for urban areas. In a similar way all industrial developments are undertaken by the department of Industry.

STATUS OF URBAN SERVICES AND SHELTER :

A. PHYSICAL

Land :

30. There has been no major constraints to urban expansion in most of the urban areas of the State. However, land availability for development purposes has been faced with numerous problems. For public authorities, acquisition of land has been usually time consuming often blocked in litigations over awards. Thus despite access to land prices as determined under the provision of Land Acquisition Act, 1894, the public authorities are unable to acquire land at a price which would allow the development of even minimally serviced sites at costs affordable by the urban poor. They are also unable to adopt a continuous process of land acquisition and disposition on a scale which matches the needs of households quantitatively. For example the U.P. Housing and Development Board (since its inception in 1965) and the 14 Development Authorities in a combined way could acquire roughly 13,180 hectares of land and develop about 6,850 hectare of land in the whole of the State till 31-12-1985.

31. The major problem of urban land policy has been a serious imbalance in the supply of and demand for serviced land. Promoting flexibility in land-use in response to changes resulting from a growing city is recognised as an important step in the State's urban development efforts. Accessibility within the town has been affected greatly by unimaginative allocation of use and holding of parcels of land by private bodies to uses not at its optimum level and by lack of appropriate package of credit services for delivering land to the poor. The State Government have enacted legislation to support planned development of urban areas through the U.P. Urban Planning and Development Act, 1973. Besides special legislation have been enacted and enforced with varying degree of success to control land development operations on the periphery of city limits. However, beyond limited concern for acquisition of land for public purposes supplemented in certain cases by betterment levy of development charge, substantive aspects of land policy do not yet form a part of the State town planning legislations. As it turns out, the main thrust of policy action in the urban situation has come to be focussed on land acquisition, development and disposal, supplemented in various instances by land use controls and regulations. In the absence of any systematic investigations very little is known about equity or efficiency effects of these measures or for that matter use of land as a resource for development. The lack of adequate information about urban land—who owns it, how it is used, who should be paying taxes on it, is being increasingly recognised as a serious obstacle to social and economic development of the cities. It has created a number of problems from limiting a city's ability to generate revenues, to constructing the urban land market and interfering with important development projects. Establishing a good up-to-date land record or cadastre is recognised as a fundamental necessity for managing future growth of cities.

32. Urban services have been generally inadequate for the expanding urban population. Phenomenal growth

of urban population together with increasing capital and maintenance costs of providing infrastructure and services have resulted in deterioration of such services particularly in large cities. The problem is aggravated by the inequitable distribution of such services among different segments of population and area.

WATER SUPPLY :

33. Most cities or towns have inadequate levels of water supply in terms of limited hours of supply along with low pressures. The supply hours vary from 4 to 16 hours depending upon availability of water and power. The average domestic water supply in the urban areas varies from 60 to 100 lpcd. Considerable areas in the urban centres still remain uncovered by water supply networks, and a large proportion of the urban population (about 40% to 50%) have to depend on public standposts and open wells which pose serious problems of pollution due to unsatisfactory levels of disposal systems of refuse and sullage as at present. It is estimated that on an average 30% to 35% of water supply is lost through wastage and leakage.

34. Existing distribution networks are generally old, and even where augmentation works have been taken up, their extensions have been slow, to cope up with the general rise in population of cities leading to low pressure. The number of individual connections are relatively low. Even in larger cities individual metered connections are quite low averaging about 35—40% of households in the city, while the rest are unmetered connections for which usually a tap rate is levied. Debt servicing has been quite severe for most of the water supply undertakings and the rising cost of production coupled with comparatively inadequate tariff has been a cause for financial deficits for most of the municipalities in the sector.

SEWERAGE AND DRAINAGE :

35. Except for a few cities (population more than 5 lakhs), most urban areas in the State have night-soil collection services for bucket latrines. Even in the big cities as above large parts remain unserved by a sewerage system. The collection services, however, have inadequate coverage leading to unhygienic environmental conditions with risks of contamination to water supply. In the new colonies, the problems of sewerage disposal is being addressed to some extent by the construction of individual soak pits and septic tanks. In some cases sewers in new colonies have been laid leading to communal septic tanks. The various surface water drains generally carry both sullage and rainwater which have their outfall either to a river or a major watercourse (nala).

36. The municipalities are mainly responsible for sewerage and drainage operation and maintenance of sewerage services. Comprehensive schemes to collect and dispose of human excreta are generally lacking in most urban centres. In large towns and cities night-soil is generally transported to a trenching ground where composting is done in combination with domestic refuse. Usually large open drains in the cities

of towns serve the purpose of disposal for a large proportion of the population. In the smaller urban centres refuse disposal is less organised with effluents and night-soil often ending in nalas or streams located nearby or on the periphery of the urban areas. Sewerage systems, wherever they exist are, however, operating mostly at deficits, with fuel costs and debt servicing forming a significant part of maintenance and operation costs.

37. Drainage outfalls are generally available within or near most cities or towns. However, except for a few areas in the city these are generally katcha and their capacities get seriously affected by accumulated soil and refuse, often creating overflowing conditions during the rainy season. Another cause for unsatisfactory flows are missing links and choking of drains.

SOLID WASTE :

38. Refuse is usually dumped in the open or in bins constructed within road reserves. Newer Colonies however, have addressed to this problem by constructing bins at organised spaces. These are then transported by trucks to dumping grounds. Except for a few cities, sanitary landfill system is not practiced, and, in most cases are dumped in an unsatisfactory manner. The daily collection services are also poor, covering mainly the major streets with a large share of refuses in the interiors remaining unattended for long and other periods. The responsibility for street sweeping, collection of household refuse and other solid wastes rests with the municipalities. However, the existing collection and cleaning services are rather disorganised and suffer from inadequate equipment to handle the total refuse as well as organised chain of depots for truck dumping.

ROADS AND TRAFFIC :

39. Except for large cities, most other urban centres are heavily dependent on one or two highways which account for their heavy intensity of use. This aspect is further accentuated by the generally high ownership of cycles and other slow vehicles which account for high density roadside development with narrow side streets. Traffic is heterogeneous in character with a great mixing of fast and slow vehicles which accounts for slow speed for all modes of transport. The effective road capacities become further limited by road encroachments, bad conditions of side walks, and undisciplined usage of road space. Proper traffic enforcement regulations also lack. Organised parking facilities are absent in most cases. There is no comprehensive schemes and allocations given to the road sector as a policy. These are generally guided by State government development funds and road grants given on yearly basis. These fall quite short of funds required for effective road constructions on improvement measures. The meagre allocations made to municipal agencies do not permit it to take up improvement works in a systematic manner. Because of historical growth of most of the large urban centres, there is a proportionate deficiency in circulation space at city level. Most large urban centres exhibit about 10—12% of the urban space only towards circulation.

40. Excepting for KAVAL* cities intra-city bus transport is totally absent in other towns. Requirements of intra-city transport is mostly met by cycle or pedalled rickshaws in the small towns and to some extent by para-transit system of tempos (3 wheeler shared taxis) and auto-rickshaws in Lucknow and Kanpur. Bus services often are hampered by factors such as lack of investment, limited capacity (especially during peak hours), costly operations, street congestion, and inadequately paved roads particularly in low-income neighbourhoods. The efficiency and financial viability of bus operations have been major areas of concern for the government which have to bear enormous subsidies.

41. The Municipal bodies are responsible for traffic engineering and management. However, because of paucity of funds and then general weak financial position, the road sector occupy low priority in their schemes of works.

POWER AND STREET LIGHTING

42. Power generation and distribution is done through the State Electricity Board. Street lighting and its management is mainly the responsibility of the municipalities. Power supplies to most large cities, are generally satisfactory although subject to frequent interruptions. Street lighting is generally poor because of inadequate management and coverage.

SHELTER :

43. Urban Housing has been not only a problem of scarcity, but also of land tenure and affordability. Government efforts in this direction has been through disbursement of liberal loans. Yet despite concentrated efforts through various housing schemes, the public sector's role in the total housing construction sector constituted only a small part. During 1971—81 out of 12.77 lakhs new housing stock added, the public sectors contribution was roughly 89,000 i.e. only 7.0% from all sources. During the Sixth Five Plan period. (1980—85) the achievement of the public sector is estimated at 1.30 lakh houses from all sources against an anticipated requirement of 6.66 lakhs houses.

44. At the current level of costs, most of the cities can be termed as low income cities consistent with low-affordability of the people. Nearly 70% of the urban population in the State were in the monthly per capita expenditure group of upto Rs. 75 during 1973-74. About 45% of the urban population did not have access to a safe water supply, 55% to electricity and 27% to any latrine facilities. The housing problem is affected by low affordability of the people and scarcity of serviced land and shelter. There are also problems of land tenure. It is estimated that nearly 30% of the State urban population is residing in

slums or slum like condition. In addition a significant percentage of the population is in densely populated built-up areas whose concealed demands for appropriate housing is quite significant. The standards norms and procedures in meeting adequately the needs of the Economically Weaker Sections and Low Income Groups in the urban areas need focus, in the scheme of future urban development. Experience in the field of social housing suggests that the cheapest new housing, currently being produced is still not affordable by the poor. Even under reasonable repayment terms and a low interest rate of 10 percent, about one third of urban families still cannot afford the cheapest new housing. A minimum plot size of 40 Sqmt. after meeting all zoning and minimum standards require a monthly payment of roughly Rs. 60 excluding stamp duty and charge for individual connection. With these cost indices despite concentrated efforts made through various housing schemes a large segment of EWS population needs remain unfulfilled due to rising cost of dwelling making it unaffordable to them.

45. On the other hand, private sector involvement in the land development process has been affected by legal measure. For instance, a major affect of the Land Ceiling Act has been to direct the private sector away from investment in large scale land development programmes. Rent Control legislations have tended to make the rents frozen. Housing investment have therefore been curtailed and even constructed houses have been held off the market in expectation of high returns and for fear of tenant protection safeguards under the Act. Recently the State Government have extended the period of exemption under the Act from 10 years to 20 years with a view to encourage constructions in the private sector. There is also a need to provide for an institutional structure which permits easier investments in housing both in physical and financial terms. Further appropriate lending institutions should be established so as to ensure credit facilities to low income groups. Further the materials programming of increased investments in housing need to be worked out so that their availability can be assured.

B. FINANCIAL

46. Funding Urban development has been a major concern for all city administrators. Despite growth in urban population, the abilities of cities to raise adequate revenue to cope up with demands for urban services have proportionally not increased, for proper maintenance and coverage of infrastructure services to cover new areas. This has created problems of assessments and recovery of charges and the weak internal management of cities have made the problems more severe.

*KAVAL—Kanpur

—Agra
—Varanasi
—Allahabad
—Lucknow.

47. Studies on eight major towns show that per capita tax realisation varies between Rs. 29/- Rs. 62/-. Taxes generally form 50—56% with income from other receipts ranging between 10—15% on an average. Government revenue grants represent nearly 25% of total revenue receipts. The octroi has generally been the principal tax of the internally generated revenue accounting for nearly 40—47% of total revenue receipts (less grants) followed by general tax. However, both these sources have not been buoyant enough and their growth have generally been marginal. The resulting picture is more one of deficit and clearly depicts a fiscal gap which is due to the nature of tax sources which have tended to be inelastic. Capital finance for utilities and services, and building activities to create new assets is vested in other specific development agencies like Jal Nigam and the Development Authorities and Housing Board. Health services and education rely on substantial contribution from state sources and is met through Directorate of Medical Health and Education services. On the other hand, the ability of local bodies to administer and collect local taxes and charges have been, generally inadequate leading to a deterioration of municipal services. The financing pattern shows that general local taxes are being deviated to subsidize utilities or fund transfers utilised to finance local services. Taxes and user charges generally fall short of covering general urban services, and user charges do not match with public utility spending.

48. In practice, the fiscal arrangement of state local package is through plan funds for urban development which is spent through a variety of state agencies and then, when the assets are created, these are transferred to the municipal authorities for maintenance. However the corresponding non-plan assistance for maintenance of these assets is inadequate. This has resulted in a maintenance gap for urban public services.

URBAN DEVELOPMENT ISSUES

49. Provision of appropriate physical and social infrastructure is a matter of detailed planning to be done at the sectoral and city of town level. At present a review of urban physical conditions and functions level deficiencies in land management, services and housing. Important aspect of urban planning and development like traffic and transportation, integrated urban services, solid waste management, have not received the desired co-relation and integration in the urban context. The financial position of the local bodies are generally weak. Although the municipal bodies have to carry out a large measure of maintenance activities, its financial resources are inadequate for taking up developmental and maintenance activities. One of the key issues in urban development, therefore, concerns improving urban management, finance, and resource mobilisation through the strengthening of key urban institutions in the urban areas particularly management and financing of service delivery. Another need would be to reduce the serious deficits in services through key investments in shelter

water supply, sanitation, drainage, solid waste management, maintenance and traffic & transportation.

50. A large part of urban areas are occupied by low income groups. Many urban households have such low incomes that they cannot afford conventional services and or currently produced conventional houses. There is a need, therefore, to adopt appropriate and alternative technological choices in order to bring a shelter within the affordable limits of this low income group : While designing shelter programmes for the poor, public agencies will need to give over-riding priorities to water, sanitation and garbage collection in low income areas. To encourage such technical innovations, what needs to be recognised is that self help housing and Sites and Services programmes are viable alternative to solve the problem of shelter for the poor. In order to reach the benefits of social housing to the poor, there is a need for urban community development programmes as a means of delivering appropriate services to the poor and to involve them to ensure acceptance of the various plans and developing a participating management system for serving the physical infrastructural improvements which have been installed.

51. The problem of environmental sanitation particularly in the area of solid wastes management has become so acute that it demands serious attention of city administration. The problems such as optimum deployment of manpower, timely collection, transportation and disposal of solid wastes are increasingly assuming complex dimensions with fast changing composition of urban activities. There is growing awareness of the hazards of environmental insanitation and pollution demanding in turn higher standards of public services to tackle them. The traditional engineering approach which in the past, paid inadequate attention to the socio-economic implications are no longer acceptable to the urban inhabitants. The new challenges require the adoption of new management approaches, adoption of modern management techniques and constant efforts to improve them.

52. In view of accelerated rate of urban growth, it has become necessary to provide transport support to serve efficiently the mobility of the urban people. City roads are characterised by poor road management regulations, ineffective road geometrics and inadequate control of sidewalks and parking. Adequate traffic engineering methods are also non-existent on city roads which are characterised by a high mixture of fast and slow vehicles. Therefore, there is a need to conceive of urban transport in the role of promoting urban patterns that are economically efficient and enhance standards of living. In particular, there will be need to adopt measures specifically to (a) relieve congestion, (b) help and reorganise public transport, (c) build safety measures in traffic plans and (d) protect the environment by traffic management.

53. In view of the situation in which the local bodies find themselves, a vigorous multi-pronged attack is needed to reverse the trend and restore conditions of healthy growth. At the urban level, the concerned agencies must address the problems associated with

delivery of shelter and basic services, billing, collection and proper accounting. There is a need to establish the necessary institutional framework for channelising capital funds for the improvement of urban infrastructure.

54. There is a need for separation between Revenue and Capital Accounts of the municipal budgets. Several potential benefits are foreseen. First, it should assist the integration between municipal planning of urban infrastructure expansions and their funding from local and state sources. Second, the introduction of capital budgeting should assist the development of institutional finance for urban infrastructure. Third it would improve the economic and accounting basis for the formulation and levying of user charges. Finally, and perhaps most importantly, the widespread adoption of separate Revenue and Capital accounts could greatly enhance the financial discipline of local bodies.

55. At present, creation of urban infrastructure is frequently unrelated to the capacity of municipalities to generate enough revenue to operate and maintain the new assets. The establishment of separate accounts for capital and revenue can help in moving to a more rational system where capital creation is commensurate with the income necessary to operate and maintain the investments. Furthermore, the institution of the capital/revenue account dichotomy should also help in developing a system of devolving funds based on need, revenue capacity and performance.

56. Traditional approaches in the planning and management of urban development have been found inadequate for the complex tasks of urban planning and development. The need for formulation of planning and development framework to view the project management related to urban development as an integrated system of activities, preparation, feasibility analysis, design, appraisal, approval, organisation, operation, control, evaluation and follow-up requiring performance of skilled managerial functions is being increasingly felt. Sufficient literature on methods of economic and financial analysis, network planning and work scheduling are no doubt available but much less has been written to expand the knowledge and skills of professionals and administrators in project organising, resource mobilization, decision making, problem solving, coordination and institution building, selection and training of project staff and technical assistance personnel, identification and utilization of a wide range of non-economic resources which needs to be given due attention.

57. In general, the approach to urban development efforts need to be developed having the following objectives :—

- (a) to develop new policies and approaches in the management of the urban sector and specifically the provision of services;
- (b) to work out solutions to the urban poor who constitute the majority of the urban population;

- (c) to develop 'urban' approaches which links shelter, infrastructure, transport, employment, and social services, thereby improving the efficiency of urban investment on a city-wide basis;

- (d) to reduce the financial burden for urban development on the public sector and to shift it towards the private sector and the urban population itself.

ARCHITECTURE AND THE URBAN CRISIS— AN AESTHETIC AND CULTURAL APPROACH

58. The urban planners of today in the country are faced with in aspects—the city beautiful vs. the city efficient. Principally both the aspects are related in a varying degree with the urban form. If the urban form to-day has to assume a new scale, it is not merely to create shining and competitive new civic centres or to clear up a chaotic land scape. It is because city life itself is assuming a new scale—one which if not ordered, and if not designed are apt to reduce people to a state of insignificance. Some of our cities as we know them are facing crisis of scale, compounded by human, as well as physical neglect and decay. There is the decay of the time honoured centres with open land vanishing. Expansion is eroding the precious value of community with neighbours and communion with nature.

59. Many of the development plans prepared do not accomplish the three dimensional orderly growth of urban centres in a long term perspective. Even if some of them have such plans they lack the power to enforce the unified three dimensional growth of the urban centres. Left to private hands we lack architects and urban designers in sufficient numbers to plan and design human space to fulfil aspiration and hopes of the people. Many architects have opined that urban design today suffers from a lack of controlling image of sufficient order and beauty. Cities of the past had relied greatly on town elements to unify growth of areas around them e.g. the palace, the fort, the clock towers, the temples with their bazars, the river front etc. Constructions in private residential parts were required to conform to this controlling image to which the people were both aesthetically and culturally involved. With the breaking of the pedestrian scale, this vital controlling mechanism as an expression of the people's aspiration and cultural involvement have been lacking and instead individual designers have been too willing to substitute their own perceptions for information. Thus there has been a neglect of the programming phase of the architecture of the city.

60. The city is a giant construction presenting problems of scale, mass, space, circulation etc. Urban design is a joint understanding of all those involved in urban development. There is thus a potential need for integration of social and behavioural sciences with architecture. As an expression of these behavioural sciences, spatial treatment activities portraying the democratic and cultural urges of the poor needs to be treated as a total design. Delhi's complex of India Gate and its lawns leading to the seat of administration and the house representatives reflect a symbolic

image or a nation's urges. Such seats of religious or cultural importance, assembly halls or community centres, markets or commercial complexes, apart from historical spaces need to be spatially treated as a total design of aesthetics. There have been far too much distortions in these areas through vehicular intrusions, lack of pedestrian plazas and noise pollution. There are needs in these areas for achieving correct massing, unity in processes of open spaces and vertical/horizontal separation of people and vehicles to achieve a visual unity of the surrounding landmarks in the urban form.

SOME POLICY DIRECTIONS OF FUTURE URBANISATION

61. As discussed in the preceeding paragraphs, the growing emphases on the systematic organisation and management of positive urban development policies need to take into account the following :—

1. The key fact that must be faced is that urbanisation is going to occupy space in the foreseeable future. Hence policies have to be so designed that the continued needs of urbanisation has to be met. Recognising the fact that agriculture and rural development will and should continue to command priority in planning, the size of the urban population is such that it can no longer be felt to ad-hoc responses.

2. The need for more positive urban development approaches based on a better understanding of the inter-relationship between rural and urban development, and, on the formulation of policies and promoting the economic development of towns and cities, of stimulating their employment potential, and of dealing much more vigorously with the inescapable "facts of life" of continued urban population growth need to be recognised urgently. The policy should be directed in relation to the scale of problems involved in supporting and reinforcing the positive investment oriented views of urban development as the basis for effective overall development policies and programmes.

3. It is recognised that the urban centres as a whole provide substantial proportion of the total employment in the country and contribute a significant part in gross domestic product—but in terms of urban infrastructure investments essential to further economic development, these have received less than 3% of the total plan outlays over the past. In the context of rapid urbanisation, the total urban population of the State is expected to reach 52.6 million by the turn of century i.e. in just another 15 years the proportion of urban population would increase from 18.01% of total State population in 1981 to about 30.2% by 2001.

4. Given the scale of size of U.P. with its marked regional diversities, the problem of formulating realistic urban development policies and programmes are of daunting complexities. Urban centres in the State exhibit the following distinctive characteristics :—

- (1) High rate of urban population growth with urban centres in general growing much faster than the State/National rate of population increase.

- (2) A particularly rapid and relentless increase in the scale and nature of urban in-migration, and scale of urban poverty.
- (3) A huge and growing deficit of a whole range of urban infrastructure and services as the scale of urban investment increasingly, falls behind the pace of urban population growth.
- (4) A chronic scarcity of resources (financial, material, managerial, technical) to cope with the situation.

Against the above background, following key points emerge which need to be taken into account in formulating policy directions of future urbanisation :—

- (a) A sense of urgency in regard to the complex issues of urban development.
- (b) Marked regional differences in urbanisation potentials and priorities.
- (c) An urgent need for more positive investment oriented approaches to urban development within the framework of national/state socio-economic development objectives.

5. Central concern of the urbanisation policy is the dispersal of population and economic activities among the different urban settlements and also overseeing the distribution of these activities within the urban centres and ensuring the provision of basic urban services to the population. In other words, investments in urban centres be envisaged to make them effective instruments of development in a regional context and also help make the life of citizens comfortable. To discharge these functions, urban institutions need to be strengthened to perform their roles efficiently and effectively.

6. Due to inadequate resources—both financial and managerial, the need for strengthening institutional capabilities and resource mobilisation assumes critical importance in the wake of increasing responsibilities called upon to undertake economic development, and to meet the capital costs and maintenance expenditure of urban development works.

7. The need for development of an apex institution for financing the capital projects of local bodies and agencies is being increasingly felt. Though financial needs of the local bodies are being partially met presently from HUDCO, yet the creation of an apex institution in the State with a professional management structure could be an useful step.

8. Integration of urban development plans with the State plans have been repeatedly highlighted in many forums with little success so far. It is essential that appropriate revenue sharing and planned financing arrangements be evolved to meet the development plan and non-plan requirements of the local implementing agencies adequately.

9. It should be recognised that urban administration and management require specialised training. Currently the only systemised training is given in the courses of Town Planning. As the number of urban development authorities are increasing, the need for training in the techniques of urban development and

management covering various management facets becomes critically important.

10. There is a need for a defined investment policy regarding promotion of industrialisation versus urbanisation, or, the claims of the capital cities with other cities, and, the relationship of a few major cities to all other cities in the country. There is need for pursuing an integrated approach to industrial cum urban infrastructure planning in the context of overall development plan for the industrial area. There is therefore, an urgent need for funding local implementing agencies for urban development works e.g. housing, transport, water supply, sanitation etc. in such locations.

11. There is a need to examine as to what extent it would be an useful long term practice to siphon the bulk of State growth supports to the bigger cities in contrast to general overall decentralisation efforts involved in building up small and medium cities, and industrialisation over a wide area.

12. There is a need to investigate ways and means to reorient current urban planning and development practices so as to bring about a better co-relation between master plan phasing and development phasing.

13. It would also become imperative to examine how far will it be possible for central cities and various parts of their conurbations to receive effective powers to act together in planning and development (in view of proliferation of urban agglomerations). Is it possible to have a metropolitan government or a metropolitan sub-head to planning? For development of such metropolitan areas. The Central Government should fund major share of the investments since they contribute substantially to national economic development.

SUPPLEMENTARY MATERIAL FOR DISCUSSION WITH NATIONAL COMMISSION ON URBANISATION

ECONOMIC REGIONS

The State of U.P. is divided into 12 commissioneries. On the basis of salient economic characteris-

tics the State has been divided into 5 economic regions namely, Hills, Western, Central, Eastern and Bundelkhand. These economic regions comprise of following districts.

@Hill Nainital, Almora*, Pithoragarh*, Chamoli*, Uttarakashi*, Tehri, Dehradun, Pauri-Garhwal.

Western Etawah*, Farrukhabad*, Shahjahanpur*, Pilibhit*, Bareilly*, Badaun*, Etah*, Mainpuri*, Agra*, Mathura*, Aligarh, Moradabad*, Bulandshahr*, Ghaziabad, Meerut, Muzaffar Nagar, Bijnor, Saharanpur, Rampur*.

Central Lucknow, Unnao*, Kanpur, Fatehpur*, Rai Bareilly*, Barabanki*, Sitapur*, Hardoi, Kheri.

@Eastern Allahabad, Pratapgarh, Sultanpur*, Faizabad*, Gonda*, Bahraich*, Basti*, Gorakhpur, Deoria*, Ballia*, Azamgarh*, Jaunpur*, Mirzapur, Ghazipur*, Varanasi.

@Bundelkhand Banda*, Hamirpur*, Orai*, Jhansi* Lalitpur*.

These regions have shown remarkable disparities. It is also seen that the regions which had edge in the beginning, not only continued to retain the lead but also enlarged its margin.

Demographic Features of Economic Regions

2. As stated earlier the urban population of the State as 18.01% of the total State population in 1981. The distribution of population however shows wide divergence among the five economic regions. The Eastern Region accounted for roughly 37.6% of the State population followed by the Western region with about 35.5% of the total population and Central region with 17.7% population. However, the proportionate distribution of urban population show 46.9% being covered by the Western Region followed by 22.4% under Eastern Region and 20.8% under Central Region. Table below gives in a nutshell some salient features of population distribution among the economic regions of the State.

SALIENT DEMOGRAPHIC FEATURES OF ECONOMIC REGIONS OF U.P. 1981

Name of Region	Geographical Area (Sq. Km.)	Total Population	Density Population (persons/Sq. Km.)	Total Urban Population	Percentage of Urban Population to total population
Hill	51122	4835712	95	884860	18.4
Western	82164	39349930	476	9331450	22.8
Bundelkhand	29455	5429075	184	1084289	19.9
Central	45869	19595716	427	4147273	21.4
Eastern	85803	41651580	485	4451243	10.7
Total	2,94,413	110,862,013	377	19,899,115	18.01

Source : Census of India 1981.

@ declared as backward regions.

* declared as backward district.

It is evident from the table that although the Eastern Region is the most densely populated region in the State, its urban share of population was the lowest in the State. Regionally the trend of urban population growth and that of growth in number of urban Centres during 1971-81 exhibits the potentiality of Western Region both in respect of growth in number of urban Centres as well as in urban population as follows :—

GROWTH IN URBAN CENTRES AND URBAN POPULATION

Name of Region	Percentage Growth 1971—81	
	No. of urban centres	Urban population
1	2	3
Hill	67.57	57.64
Western	118.79	63.11

DISTRIBUTION OF URBAN AREAS AND POPULATION BY ECONOMIC REGIONS OF U.P. 1981

Name of Region	Total Urban Population	Total Population in MC and MB	% of (3) on (2)	Total Urban Centres	No. of Mc and M.B.	% of (6) on (5)
Hill	884860	622197	70.31	62	21	33.87
Western	9331450	7473678	80.09	326	94	28.83
Bundelkhand	1084289	794446	73.27	52	18	34.62
Central	4147273	3233934	77.98	110	25	22.73
Eastern	4451243	3059822	68.74	180	33	18.33
Total	19,899,115	15,184,077	76.30	730	191	26.16

Source ; Census of India, 1981.

In the Western Region more than three-quarter of the urban population was concentrated in the municipal areas which was about 28.8% of all urban centres in the region. In contrast the Eastern Region showed a little over two-thirds of the urban population concentrated in the municipal areas which represented 18.3% of all urban centres in the region. It is interesting in this connection to note that out of 30 class I towns in the state in 1981, 19 were located in the

1	2	3
Bundelkhand	100.00	72.37
Central	122.05	51.24
Eastern	143.24	62.75
Total	124.62	60.74

Source ; Census of India 1981.

Note ; Urban Centres have been delinked from agglomerations and counted separately.

Settlement Pattern

3. Nearly 76.3% of the state urban population was contained within municipal jurisdiction which constituted roughly 26.2% of all urban centres in the state (Refer table below).

Western Region, 6 in the Eastern Region, 3 in the Central Region (Containing the only 2 metropolitan Centres in the State) and 1 each in Bundelkhand and Hill regions.

4. Geographically the Western Region is also more numerously served by urban centres as would be evident from the following table :—

GEOGRAPHICAL DISTRIBUTION OF URBAN CENTRE BY REGIONS 1981

Name of Region	Geographical Area (Sq. km.)	No. of Urban Centres	Geographical Area per Urban Centre (Sq. Km.)	No. of Villages per Centre	Rural Population per urban Centre
Hill	51122	62	485	241	637
Western	82164	326	252	86	6140
Bundelkhand	29455	52	566	87	83553
Central	45869	110	417	141	140440
Eastern	85803	180	477	274	206668

Source : Census of India, 1981.

5. Although details of rural settlement pattern by size of villages are not available for the 1981 census, yet, the Census 1971 gives sufficient perspectives of the type of settlements by size for the different regions which are as under :—

DISTRIBUTION OF VILLAGES BY SIZE ON THE ECONOMIC REGIONS—1971

Name of Region	% of Settlement of population			Total	Geographical Area per Villages (Sq. Km.)
	upto 499	500—1999	2000+		
Hill	92.30	7.30	0.40	100.00	3.41
Western	40.45	50.41	9.14	100.00	2.93
Bundelkhand	45.86	46.78	7.36	100.00	6.50
Central	42.00	50.90	7.10	100.00	2.96
Eastern	57.47	38.65	3.88	100.00	1.74

Observations on urbanisation

6. The lowest level of urbanisation, which is 10.7 percent is exhibited in Eastern Uttar Pradesh. However, the rate of urban population growth of 4.94 percent in this region is astonishingly above the national average of 3.85 percent a year. Along with this pattern of high urban population growth, this region also manifests high rate of rural population growth of about 2% as compared with 1.8% for the State and 1.75% for the country as a whole.

7. The regional distribution of towns as shown in table indicates that maximum number of towns are located in the Western region where agricultural potentials are more. Conversely, the Hill and Bundelkhand regions with their meagre resources and difficult terrain have created a few towns. Eastern region though quite large in area have got only about one-third of the total towns falling in the Western region.

This is because of low agricultural productivity and out migration of rural labour. However, the high rate of urban population growth in this region during 1971—81 reflects that people move to towns which ever offer even a slightly better opportunity of employment than the village itself. This would happen even if the town to which they migrate has only limited economic potential. Azamgarh, Pratapgarh, Deoria and Basti are examples of how economic stagnation at rural and urban areas has still lend itself to a fast rate of growth of certain urban centres basically district headquarter towns as mentioned above. The other size towns in this region like Ballia, Ghazipur and Sultanpur (all district headquarters) have also grown rapidly while the larger cities of Allahabad, Gorakhpur, Varanasi and Faizabad have been relatively stagnant. Table below reveals that most of the class I, II and III cities had normal and above rates of growth in various regions of the State.

REGIONAL DISTRIBUTION AND GROWTH OF CLASS I, II AND III CITIES, UTTAR PRADESH 1971—81

Regions	Total	Static	Normal	Dynamic	Extraordinary
Hill	8	2	1	5	—
Western	82	20	37	17	8
Central	18	1	10	6	1
Eastern	30	4	14	5	7
Bundelkhand	15	1	6	7	1

Source : Census of India 1981.

Note : Static upto 2.5% growth per annum

Normal-growth 2.5 to 3.5 p.a

Dynamic-growth 3.5% to 5% p.a.

8. Bundelkhand region exhibits a very high rate of urban population growth (5.57%) along with low rural population growth resulting in urban rural growth differentials higher than 3 percent. It is characterised by heavy industrial investments in large sector undertakings like BHEL at Jhansi. In common with Eastern region this region also has a low agricultural productivity growth and consequently a large industrial investment has induced high rate of migration from the rural areas as evident from extremely low rate of rural population growth. Table above indicates that out of 14 class I, II and III cities in the Bundelkhand region only one city is static and all others are growing either at normal or dynamic rate.

9. Western Region with high urban rural growth differential (over 3 percent) forms a distinct region by itself. It has relatively low rural population growth of around 1.5 percent per year inspite of high gains in agricultural productivity. Here urban growth is taking place because of gains in income leading to demands for agricultural related urban services. This region is well served by an existing network of small and medium towns which are growing quite rapidly after the green revolution. Out of 659 urban centres in the State (counting urban agglomerations as 1 unit) 299 are concentrated in this region. Towns with industrial and marketing (mandi) functions have registered a rapid growth of population in this region.

10. The level of urbanisation in the Central region is almost equivalent to the Western region though the rate of growth of urban population has been lowest (4.41%) as compared to other regions. 28 percent of the total urban population of this region is concentrated within the two metropolitan centres of the State namely Kanpur and Lucknow. These cities form one of the most significant urban regions in Northern India. Another 50 percent of the population of this region is contained in class II and III towns. Among the 20 class I, II and III towns, 15 exhibit a growth rate of more than 2.6 percent per annum.

11. The Hill region forms an independent class by itself with fewer number (56) of urban centres (taking Urban Agglomeration as one unit) mostly located in the plain areas and the foothills. Dehradun is the only class I city of this region. Many urban centres have registered a rapid growth where industrial and marketing functions have increased during the previous decade. There are only 9 class I, II and III towns and the rest are class IV, V and VI towns.

12. The regional pattern of urbanisation in the State thus shows three distinct phenomena of high urban growth each with a different cause. Rapid urbanisation is taking place as a result of major public investments in industry. At the same time, rapid urbanisation is also taking place as a result of rapid agricultural growth. It seems apparent that, given demand for labour in urban areas, rural urban migration is likely to take place quite readily in both prosperous agricultural regions and agriculturally poor regions. In contrast, the third kind of rapid urban growth is observed in agriculturally stagnant regions partially because of redefinition of settlements for administrative expansion.

Regional Economy

13. The demographic and geographical features have had profound influence shaping the economy of the Regions. As would be clear from Annexure-II the pressure on land was very high in the Eastern Region with 79.08% of its total workers engaged in agricul-

tural and allied activities and 91.97% of total holdings under small and marginal holdings. The average size of holdings in this region in 1980-81 was 0.75 hectare as compared to 2.12 hectare in Bundelkhand, 1.22 hectare in the Western Region, and 0.96 hectare in the Central Region. The gross value of agricultural produce per capita (rural) in 1981-82 was Rs. 651 in the Eastern Region as compared to Rs. 1073 for the Western Region followed by Rs. 1019 for the Bundelkhand Region, Rs. 948 for the Hill Region and Rs. 824 for the Central Region. The per capita net domestic output at current prices was also lowest in the Eastern Region at Rs. 603 among the five economic regions in the State. The Eastern region was also lagging behind other regions in regard to levels of social services which combined with low per capita income has been a major cause of outmigration from this area to other parts of the country.

14. The economic regions show significant variation in total output. The Western region accounts for roughly 40% of the State output followed by Eastern, Central, Hill and Bundelkhand regions respectively. The per capita output in the Western, Hill and Bundelkhand regions were higher than the State average of Rs. 821.75 in 1982-83. Agriculture and animal Husbandry contributed significantly to the net output of Commodity producing sectors e.g. 83.8% in Bundelkhand, 80.1% in Eastern Region, 74% in the Western Region, 73.8% in the Central Region and 68.8% in the Hill region. Manufacturing (registered and un-registered) sector show largest contribution (25.1%) for the Western Region followed by central (18.6%), Eastern (18.5%), Bundelkhand (12.9%) and Hill (8.7%). The contribution of other sectors in the net output was marginal for all the economic regions except for the Hill region where forestry and logging sector contributed 20.2% of the net output. Thus by and large agriculture as a sector continued to dominate the regional economic structure.

15. By another statistical exercise disaggregating net output and rate of growth in total output, the following picture is obtained.

GENERAL ECONOMIC INDICATORS OF ECONOMIC REGIONS OF U.P.

	No. of districts					Total
	Western Region	Central Region	Eastern Region	Bundelkhand Region	Hill region	
Districts having per capita net output and rate of growth in total output higher than the state Average	11	2	—	1	2	16
Districts having per capita net output above the State average and rate of growth in total output below the State average	5	1			4	14
Districts having both per capita net output and rate of growth in total output below the State average	2	3	8	1	2	16
Districts having per capita net output below but growth rate in total output above the State average	1	3	6	—	—	10
Total	19	9	15	5	8	56

Regional Dispersal of Unemployment :

16. Upto-date details about magnitude of unemployment in the different economic regions are lacking. However a study was conducted by the Man Power Planning Division of Planning Department, Government of Uttar Pradesh on size and structure of unemployment in Uttar Pradesh in 1976. Regional analysis shows that the maximum concentration of the wholly unemployed persons (2.51 lakh) was in the Eastern region followed by the Western region (1.72 lakh). The Central region accounted for 0.97 lakh, the Hill region 0.29 lakh, and Bundelkhand region 0.33 lakh. As percentage to the population the situation was more serious in Bundelkhand (0.69 per cent) and Eastern (0.68 per cent) region, Hill (0.59 per cent), Central (0.48 per cent) and Western (0.45 per

cent) regions following in that order. Of the total 23.45 lakh casual workers seeking or available for work 11.85 lakh were in the Eastern region; 6.50 lakh in the Western region; 0.03 lakh in the Central region; 1.39 lakh in the Bundelkhand region and 0.67 lakh in the Hill region. Their proportions in the regional population were 3.25 percent in the Eastern region, 2.93 per cent in the Bundelkhand region, 1.90 per cent in the Western, 1.80 percent in the Central and 1.50 percent in the Hill region.

17. The above analysis shows that the total size of job seekers in the State in 1976 was around 29.27 lakh —5.82 lakh wholly unemployed and 23.45 lakh casual workers seeking jobs. In terms of proportion of population and labour force the percentage of job seekers works out to 3 and 9 percent respectively.

Region	Projected population 1976 (in lakhs)	No. (in lakhs, and their percentage to the regional population)		
		Wholly Unemployed	Casual workers seeking jobs	Total
1	2	3	4	5
1. Hill	42.112 (100.00)	0.29 (0.69)	0.67 (1.59)	0.96 (2.28)
2. Western	341.965 (100.00)	1.72 (0.50)	6.50 (1.90)	8.22 (2.40)
3. Central	168.523 (100.00)	0.97 (0.57)	3.03 (1.80)	4.00 (2.37)
4. Eastern	365.041 (100.00)	2.51 (0.69)	11.85 (3.25)	14.36 (3.99)
5. Bundelkhand	47.359 (100.00)	0.33 (0.70)	1.39 (2.93)	1.72 (3.63)
	965.00	5.82	23.45	29.27
State	(100.00)	(0.60)	(2.43)	(3.03)

18 The profile of unemployed seeking for jobs reflect a large percentage in the category of illiterates and upto middle level. Obviously, therefore, the type of jobs in which such migrants can get absorbed are rickshaw pulling, construction labour, casual labour,

petty peddlars and hawkers, handcart pullers, domestic services etc. A majority of these pursuits depend to a large extent on population agglomerations or on strong economic centres.

DISTRIBUTION OF THE WHOLLY UNEMPLOYED BY REGION AND EDUCATIONAL LEVEL BASED ON THE USUAL ACTIVITIES CONCEPT

Region	Educational level				Total
	Illiterate	Upto Middle	Higher Secondary	Graduate and above	
1	2	3	4	5	6
1. Hill	20.57	52.57	23.43	3.43	100.00
2. Western	23.98	44.44	23.62	10.96	100.00
3. Central	37.68	42.14	13.97	6.24	100.00
4. Eastern	32.75	42.49	17.72	7.04	100.00
5. Bundelkhand	33.75	43.31	17.20	5.74	100.00
6. State	30.10	43.85	18.33	7.72	100.00

OBSERVATIONS

19. The growing disparities in levels of economic development among the regions can be attributed to poor economic base, severe unemployment and under-employment, low industrial development and lack of adequate road and communication facilities and social services particularly in the Eastern and Bundelkhand regions. Despite having rich mineral resources, considerable surface Water/under ground water resources, and a reservoir of traditional weavers, both the regions suffer from low productivity caused partially by non-utilisation of large land surfaces which are either under use, ravines etc. or affected by severe droughts and floods and partially by low skills and production techniques of the people. Both these regions are therefore characterised by large scale migration to urban centres to other parts of the state or country. In contrast to migration in other regions which have tended to remain confined within the region, that in the Eastern Region has been particularly characterised by migration to other states also because of low agricultural productivity consequent upon a large number of marginal uneconomic holdings. The rural-urban migration is a planned move of a group and the migrants have often a fair idea of the prospects of employment in industry, petty trade or casual labour in urban areas. The only places where employment has increased visibly and more rapidly are the areas of concentration of industries and trade in and around big cities. The increase of output through the division of labour and specialisation that is characteristic of urban economics has shown itself capable of expanding job opportunities faster than long range projects of rural development. It has therefore, exercised a much stronger influence on the migrants entering the labour market.

20. The recent spurt in urbanisation reflects a high rate of migration which was roughly about 1.6% per annum between 1971—81. Concurrently the fact that the class I cities in 1981 were holding lesser proportion of urban population (51.26) in 1981 than in 1971 (57.06) suggests that urban growth has started to be rapid in small and medium towns too. Nevertheless the magnitude of shift in urban population during 1971—81 reflects that about 33.78% of it was absorbed by the 30 class I cities in the state. The corresponding picture in the different economic regions were as under.

MAGNITUDE OF INCREASE IN URBAN POPULATION 1971-81

	Total (million)	Share of class I cities (million)	Percentage of (2) on (1)
	1	2	3
Hill Region	0.32	0.09	28.12
Western Region	3.61	1.29	35.73
Bundelkhand Region	0.46	0.09	19.57
Central Region	1.42	0.59	41.54
Eastern Region	1.71	0.48	28.07
TOTAL	7.52	2.54	33.78

21. It is apparent from the above table that the three regions of Hill, Bundelkhand and Eastern proportionately lacked sufficiently strong urban centres acting as growth poles for concentration of population. It is also clear from a study of the type of administrative status of urban centres that although a large degree in population influx was occurring in these centres, only about 26.2% of these urban centres had a sufficient administrative and financial structure to take on planning and development works.

FUNDING

22. Funding Urban development has been a major cause of concern for all city administrators. Despite growth in urban population, the ability of cities to raise adequate revenues to cope up with demands for urban services have proportionately fallen behind, leading to poor maintenance and coverage of infrastructure services to cover new inhabitants. This has created problems of assessment and recovery of charges as people disillusioned with inadequate nature of services become even more reluctant to pay taxes, and the weak internal management of cities to realise so makes the fiscal gap more aggravating everyday.

An idea of the income sources of the Local Bodies can be had from Table below.

BOARD SOURCES OF INCOME OF URBAN LOCAL BODIES U.P.

Sl. No.	Category	(Rs. in lakhs)		
		1980-81	1981-82	1982-83
1.	Income from own sources	5422.23	6528.87	7229.34
2.	Road grants	1477.00	1420.00	1359.34
3.	Toll/Transit Compensation	—	595.49	678.00
4.	State assistance for salary and allowances	870.20	870.20	1200.00
5.	Income from other sources	1619.98	611.77	814.26

Source : Report of Sub Group on Urban Local Bodies VIIth Five Year Plan.

23. The table would show that the income from own sources constituted 57.75%, 65.15% and 64.08% respectively of the total income. A major part of the income comes from Octroi/toll tax and House tax as will be evident from the table below.

INCOME FROM OCTROI AND HOUSE TAX OF LOCAL BODIES, U.P.

	(Rs. in lakhs)		
	1980-81	1981-82	1982-83
Octroi/toll tax			
Nagar Mahapalika	1445.53	1757.63	1875.89
Nagar Palikas	1221.91	1580.82	1696.47
House Tax			
Nagar Mahapalikas	510.66	522.24	572.24
Nagar Palikas	273.64	345.11	356.22

Source : Report of sub-Group on Urban Local Bodies VIIth Five Year Plan.

24. Nearly 70% of the income from their own resources is spent by the local bodies on maintenance of establishment at present which has risen progressively over the years. Less than 4% and 3% respectively were being spent by the Nagar Mahapalikas and

Nagar Palikas on street lighting. On sanitation, the Nagar Mahapalikas were spending nearly 25% of their total expenditure but, for the Nagar Palikas, this formed a meagre 3% of their total expenditure. Table shows the expenditure position broadly as under :—

EXPENDITURE BY BROAD CATEGORIES OF LOCAL BODIES, U.P.

							(Rs. in lakh)					
Sl. No.	Category						80-81	81-82	82-83	80-81	81-82	82-83
Nagar Mahapalikas							Nagar Palikas					
1.	Eastablishment	.	.	.	.	.	955.94*	1922.03	2486.73	1846.01	2121.75	2650.89
2.	Street lighting	.	.	.	.	.	56.95	149.95	172.51	103.02	114.81	130.97
3.	Sanitation	.	.	.	.	.	127.61	1003.33	1178.23	131.93	147.84	195.55
4.	P.W.D.	.	.	.	.	.	30.55	30.37	37.79	200.73	297.61	350.95
5.	E.T.C.	.	.	.	.	.	2419.95	968.14	831.38	1820.37	2150.84	2414.99

Source : Report on sub-Group on Urban Local Bodies VIIth Five Year Plan.

*Kanpur and Bareilly not included.

25. In a separate study conducted by the U.P. Systems Development Corporation (UPDESCO) on Financial position of Local Bodies, it was found that Revenue expenditure formed nearly 82%—85% of

total expenditure being incurred by the Municipal Corporations and Municipal Boards in the State. While the growth of Revenue expenditure between 1977-78 has been roughly 2-3% per annum the expenditure on capital heads have declined on an overall basis.

EXPENDITURE PATTERN OF M.C./M.B. IN U.P.

Head of Account	1977—78	1978—79	1979—80	% increase/ decrease 77-78 to 1979-80
Revenue expenditure	581356	614081	619068	(+)6.49
Capital expenditure	127618	107979	122437	(—)4.06
Total expenditure	708974	722060	741505	(+)4.09

General administration and revenue collection takes for about 12-14% of total revenue expenditure, Public Health sector is the most dominant sector of revenue expenditures accounting for nearly 43-45% of all revenue expenditures followed by 15-17% under public works. Loan repayments however eat up 3-4% of revenue expenditures. Under Capital Expenditures, roads/payments take up between 57-58% of all capital expenditures followed by 18-22% under Water Works and drainage schemes.

26. Studies conducted on municipal receipts and expenditures reveal deep inadequacies in financial re-

turns. Results of income and expenditure pattern of eight major cities/towns show wide variation in income from as low as Rs. 50.00 per capita income to Rs. 92.00 per capita and per capita expenditure from Rs. 53.00 to Rs. 90.00.

Income and Expenditure pattern of Corporation Towns U.P. 1983-84 reflect that the towns were able to spend very little on development works a majority of which (about 50%) was spent on solid Waste Management.

INCOME AND EXPENDITURE PATTERN CORPORATION TOWNS U.P.

1983-84

Corporation Town	Population 1983-84 (lakhs)	Revenue Income 1983-84 (Rs. lakhs)	Per Capita Income (Rs.)	Revenue Expenditure (1983-84 (Rs. lakhs)	Per Capital expenditure (Rs.)
1	2	3	4	5	
1. Kanpur	16.39	1510.23	92.14	1399.93	85.41
2. Agra	8.45	473.09	55.99	444.33	52.58
3. Varanasi	7.50	475.05	63.34	452.45	60.33
4. Allahabad	7.75	507.37	65.47	502.13	64.79
5. Lucknow	11.41	675.40	59.19	661.66	57.99
6. Meerut	5.37	485.10	90.31	484.60	90.24
7. Bareilly	4.77	238.14	49.92	283.21	59.37
8. Gorakhpur	3.35	308.40	92.06	301.40	89.97

NOTE : Population figures are those given by municipal bodies for area under their control.

27. The resulting picture is more one of deficit and clearly depicts a fiscal gap in revenues generated by the city to take up development works. Part of this fiscal gap is due to the nature of tax sources which have tended to be inelastic and also due to a structural problem, in which the civic authorities although responsible for providing urban services and also to expand them as the population expands, has limited authority from the government to raise revenue.

28. In several spheres the government have invested in themselves the powers of taxation and other financial rights of the local bodies like entertainment tax, road tax and registration fee of shops and institutions etc. Capital finance for utilities and services, and, building activities to create new assets is vested in other specific development agencies like Jal Nigam and the Development Authorities and Housing Board. Health Services and Education rely on substantial contributions from state sources and is met through Directorate of Health and Education Services. On the other hand the technical ability of local bodies to administer and collect local taxes and charges have been, generally inefficient, leading to a deterioration of municipal services.

29. Per capita tax realisation for nine major towns varies from Rs. 26, Rs. 62. Taxes generally vary from 50—65% with income from other receipts ranging between 10—15% on an average. Grants represent nearly 25% of total revenue receipts.

PER CAPITA MUNICIPAL TAX COLLECTIONS 1983-84

Name of city	Total Population (000's)	Total Revenue from Taxes	Per Capita tax collection (Rs.)
Kanpur	1639	1014.16	61.88
Agra	845	310.96	36.80
Varanasi	750	317.31	42.31
Allahabad	775	310.32	40.04
Lucknow	1141	450.53	39.48
Bareilly	477	138.70	29.08
Moradabad	350	90.44	25.84
Ghaziabad	318	213.28	67.07
Aligarh	350	100.93	28.34

Sources : Municipal Bodies.

PERCENTAGE OF MUNICIPALITIES' REVENUE FROM VARIOUS SOURCES 1983-84

Name of Towns	Taxes	Other Income and receipts	Grants	Loans	Other
Kanpur	67.15	5.71	27.14	—	—
Agra	65.73	10.21	24.06	—	—
Varanasi	65.51	9.57	23.00	1.92	—
Allahabad	58.41	12.12	29.47	—	—
Lucknow	53.86	14.99	28.40	—	2.75
Bareilly	52.87	—	37.90	9.23	—
Moradabad	47.81	26.47	25.72	—	—
Ghaziabad	75.45	8.82	15.65	—	.08
Aligarh	47.90	23.62	28.48	—	—

30. Total collection of General tax as percentage of total receipt (less grants) varies between 7—28 per cent. Current collection as percentage of current demand is estimated to be between 40—50% although no precise figures are available. The growth of general tax shows a good deal of variation between diminishing return in case of Bareilly and Kanpur to a growth of 30% in case of Aligarh between 1982-83 to 1983-84.

31. The octroi has generally been the principal tax of the internally generated revenues accounting for nearly 40—70 percent of total revenue receipt (less grants).

However except for Kanpur, this source has not been buoyant enough representing on an average between 2-4 percent rise from 1982-83 to 1983-84.

32. Revenue grants generally form 25% of total revenue receipts during 1983-84 but its growth has been quite varying between cities. Other tax forms a small proportion in the revenue receipts except for Bareilly and Ghaziabad where it form 21-23% of total receipts (less grants). Its growth also has been quite irregular. Besides the above other income and receipts generally have varied between 12—18% (refer table).

PERCENTAGE OF SOURCES OF INCOME UNDER REVENUE ACCOUNTS IN TOTAL RECEIPTS 1983-84

Name of city	General Tax (less grants)	Octroi Tax (less grants)	Other Taxes (less grants)	Other income & receipts (less grants)	Revenue Grants (% to total revenue receipt)
Kanpur	21.81	68.02	2.34	7.83	27.14
Agra	15.96	67.64	2.96	13.44	24.07
Varanasi	14.89	65.25	7.12	12.74	23.45
Allahabad	11.38	67.49	3.95	17.18	26.15
Lucknow	24.91	48.98	4.34	21.77	14.73
Bareilly	6.86	70.22	22.92	—	41.76
Moradabad	19.91	42.60	1.85	35.61	25.72
Aligarh	23.83	42.35	0.76	33.93	28.48
Ghaziabad	28.36	39.95	21.22	10.47	8.91

33. The financing pattern shows that general local taxes is being deviated to subsidize utilities or fund transfers being utilised to finance local services. Taxes generally fall short of covering general urban services, and user charges do not match with public utility spending.

34. The expenditure pattern of municipal bodies in the cities reveal that the utility services like "Water supply, Drainage and Conservancy" occupy the principal items of revenue expenditure followed by that for "Public Works" for the larger cities while for the smaller towns "General Administration and revenue collection" is also constituting between 27-32% of revenue expenditure. As per studies carried out by

U.P. Development and Systems Corporation (UPDESCO) per capita revenue receipt among the Municipal Corporations and Municipal Boards varied from Rs. 57 for the Hills, to 27 for the Bundelkhand Region. Similarly the per capita expenditure (including capital expenditure) varied from Rs. 66 in the central to Rs. 28 for the Bundelkhand region. It is interesting to note however that though the Eastern Region showed a comparatively higher per capita revenue (Rs. 42) and per capita expenditure (Rs. 48) to that of the Western Region with Rs. 40 and Rs. 43 respectively in 1979-80, the gap between receipt and expenditure was higher in the Eastern Region than the Western (Refer table below).

	Total revenue receipts (000's)	Receipts/capita	Total expenditure (000's)	Expenditure per Capita
Eastern	128210	41.90	147268	48.13
Hill	35562	57.17	37008	59.48
Bundelkhand	21604	27.20	22350	28.13
Western	297202	39.77	320269	42.85
Central	181853	56.23	214530	66.34

Source : UPDESCO.

PLAN INVESTMENT

35. The situation in which U.P. is placed to day vis-a-vis the country as a whole and some of the prosperous States, in particular, whether in terms of their

per capita income or levels of development is the direct consequence of less investment made in the past for U.P.s development either through various plans in the form of public sector outlay or in the shape of credit by the country's major lending insti-

tutions. The per capita outlay of U.P. in the past have either been lowest or higher only to one or two other States of the country.

36. The per capita plan investment during the Sixth Five Year Plan was about Rs. 530 against which about Rs. 552 per capita was spent as a plan expenditure. The outlay for Urban Housing development and urban water supply and Sanitation during the Sixth Five Year Plan was Rs. 186 crore (i.e. about Rs. 82 per capita) against which the expenditure was Rs. 215.83 crores i.e. about Rs. 95 per capita. It is apparent from the figures that paucity of funds for investments have been a major concern for the State Administration. During the Seventh Plan a per capita total plan outlay of Rs. 880 has been envisaged with about Rs. 145 per capita in the "Urban Water Supply, Sewerage and Sanitation sector, Urban Housing sector and Urban Development sector."

37. The plan outlays of States mainly depend upon States own resources and Central Assistance. The allocation of Central Assistance was expected to be made in such a manner as would have enabled the backward State like Uttar Pradesh to step up their level of development expenditure but the position of this State has generally been low in the scale of per capita Central Assistance. The per capita Central Assistance provided to this State during the Fifth Plan period was Rs. 144 which was less than all States average of Rs. 147 as also many other States like Haryana (Rs. 178), Orissa (Rs. 169), Rajasthan (Rs. 150), Madhya Pradesh (Rs. 148), Punjab (Rs. 146) and Kerala (Rs. 145). During the Sixth Plan the per capita Central Assistance available to the State has been only Rs. 174 which ranked 10th out of 16 states.

38. It may be mentioned that in spite of poor taxable capacity of the people of the State, the State Government raised its own financial resources by more than 130 per cent during the period 1973-74 to 1981-82 through additional tax measures. Considering the increase in the per capita tax burden in 1979-80 over 1973-74, it will be seen that the percentage increase of 129.7 observed in this State was higher than all States average (121.2 percent).

MAJOR URBANISATION ISSUES

39. In the context of rapid trend in rate of urbanisation and dispersal of this trend over a wider range of urban centres as a consequence of structural changes ushered in the rural economy, there is a need to consider the following issues which are of critical importance for formulation of a National Urbanisation policy :—

1. Is it possible to conceive of urban development as not merely supportive of, but as an integral part of economic development within the state?
2. Can an economic plan of development be framed around urban-inspired models? Is it possible to evolve a co-ordinated plan of

development of all human settlements (rural and urban) as an integral part of a National land use plan using it as a means of spatially organising the economic activity of the society?

3. What ought to be the investment policies of the State regarding promotion of industrialisation versus urbanisation, or, the claims of the capital cities with other cities, and, the relationship of a few major cities to all cities in the developing state?
4. To what extent it will be a wise long term practice to siphon the bulk of state growth supports to the biggest cities in contrast to general overall decentralisation effort involved in building up small cities, and, industrialisation over a wide area?
5. How far will it be possible for central cities and various parts of their conurbations to receive practical or effective powers to act together in planning and development? Is it possible to have a metropolitan government or sub-head to planning?
6. How far it would be possible to reorient current urban planning development practices so as to bring about a better correlation between plan phasing and development phasing?
7. The question of whether control of urban development is best accomplished by government ownership of only developable land, or, government control of all land, or no government ownership is a serious policy issue. In any case it is evident that policies must be established as to what type and intensity of control will be placed on forthcoming urban development and existing developed land in terms of availability for use, type, intensity, the differentiation of use and type of ownership to be permitted.

40. In conclusion the issues that have to be faced, by the municipal bodies in the context of the existing problems and the problems arising out of the changes that are taking place in the society are listed below :—

(a) The physical and socio-economic structure of cities and the role of municipal bodies

The changing physical and socio-economic structure of a city imply controlling of urban growth outside their boundaries and also taking positive measures to meet the influx of migrants and their needs well in advance.

(b) Future-structure of domestic urban local Government

It will be necessary to consider what structure should be evolved for the urban local bodies and how far the urban local bodies can be made a part of the overall governing part of an investment plan.

(c) Provision of adequate staff and training of staff and representatives

The existing municipal managerial structure is likely to be found increasingly inadequate to cope up with the existing problems and future responsibilities. There is a need therefore for major institutional strengthening programmes for the local bodies and staffing pattern redesigned in the context of future tasks and workloads for each category of staff.

(d) Problems of co-ordination

The provision and maintenance of physical and Social infrastructure in the high density urban areas is becoming more and more complex and involves highly inter related activities from land use planning to engineering operations, as well as enforcement of rules, regulations or disciplined behaviour on the part of users of the facilities in the city. It also involves a co-ordination effort within the organisation and with many outside agencies. At times there are number of local authorities in an agglomeration and some rural areas within and around. There are also several active departments, boards, corporations, agencies in public and private sectors, whose activities are required to be co-ordinated and at times regulated.

(e) Co-ordination at higher level for channelising infrastructure investments

Investments in infrastructure particularly the capital overheads for power installations, roads, railways, ports, canals, schools, housing, water supply, sewerage and other utility services account for a major proportion of the total outlay in the State plans. It is necessary that the resources are suitably converted in space and time in such vital items of development programmes and at selected growth points in the best possible manner so that a desirable pattern and form of cities and regions could be achieved. The settlement patterns today exhibit industrial centres with depressing slums, single enterprise towns with lack of a diversified economic base and an imbalanced social structure; housing developments without proper facilities, ports without feeder roads or rail links or power installation without consumer equipments, large irrigation projects without service centres and markets and large mining projects with shanty towns

etc. Such irrational, imbalanced and uneconomic developments can be avoided by adopting a properly integrated approach in regional developments, which can take into account all types of human settlements and whose spatial programming could become an integral part of development planning for the area. The development at selective points can be self-generating, if appropriate investments are concentrated there. The external economics generated and the linkages available in these Centres may tend to attract more such activities, generating income and employment at the location and help a diffusion of benefits to the areas surrounding the points of concentration. This means a co-ordinated approach at all levels, national, state, regional, district and the town or city and, the local bodies will have to be associated with such overall planned development processes.

(f) Powers and revenues of local bodies

The problems of urban public administration are frequently compounded by the fact that local government's responsibility for expenditure exceeds their power to raise revenues. In most cities, with the exception of a few, local government have been left with revenue sources that fail to grow with population, economic development and inflation, even where they are properly administered. The expenditure needs of local governments in urban areas have grown rapidly as urban population have multiplied and demands for better and more costly urban services have expanded. Attempts made by higher level authorities to help local governments in urban areas to develop their capacity to deal with the important and growing tasks of urban service delivery, planning and regulation have been generally inadequate. Management, budgeting and accounting practices are generally very poor, structures of taxes and fees tend to be antiquated, and their local administration and collection badly neglected, partly for lack of will, and partly because of the inadequacy of trained personnel, technical assistance, or incentives.

A key factor to solve the growing problem of the urban fiscal gap appears to rest on deriving methods for proper functioning of the State-local package. It is however apparent that more capital finance has to come from recurrent sources and state Government must take steps to provide loan funds which is unavailable from capital markets.

ANNEXURE-I(a)

District-wise per capita output, percentage share of agriculture and animal husbandry, forestry and logging and manufacturing sectors in total district net output 1982-83 (Only commodity producing sectors)

District/Region	Per Capita output (Rs.)	Percentage share in total output (at Current prices)		
		Agriculture and animal husbandry	Forestry and logging	Manufacturing (Registered and un-registered)
1	2	3	4	5
1. Agra	684.77	70.2	0.5	29.3
2. Aligarh	889.42	79.3	0.0	20.7
3. Bareilly	799.96	76.8	0.1	23.1
4. Bijnor	983.19	77.7	3.6	18.6
5. Budaun	854.55	93.8	0.1	6.1
6. Bulandshar	988.54	80.6	0.1	19.3
7. Etah	841.75	83.6	0.0	16.4
8. Etawah	778.68	90.5	0.5	9.0
9. Farukhabad	758.61	90.9	0.0	9.1
10. Mainpuri	816.08	81.4	0.1	18.5
11. Mathura	1433.81	49.2	0.0	50.7
12. Meerut	1143.33	63.6	0.1	36.3
13. Ghaziabad	1426.96	39.6	0.1	60.3
14. Moradabad	763.62	84.3	0.5	15.2
15. Muzaffarnagar	1018.37	83.4	0.1	16.4
16. Pilibhit	1167.54	80.2	2.8	7.2
17. Rampur	667.74	78.2	4.0	17.9
18. Saharanpur	1074.28	59.1	0.6	40.3
19. Shahjahanpur	826.39	92.7	0.5	6.7
Western Region	934.17	74.0	0.6	25.1
1. Bara Banki	821.28	84.6	0.1	15.3
2. Fatehpur	804.83	91.6	0.1	8.3
3. Hardoi	643.11	88.0	0.3	11.7
4. Kanpur	1030.24	45.0	0.0	25.2
5. Kheri	860.60	91.5	3.0	5.4
6. Lucknow	689.19	47.4	0.1	52.5
7. Rae Bareli	774.40	84.1	0.1	15.8
8. Sitapur	844.16	87.0	0.0	13.0
9. Unnao	695.88	86.7	0.2	12.8
Central Region	816.16	73.8	0.4	1.8
ANNEXURE-I(b)				
1. Banda	1033.31	90.0	4.2	5.2
2. Hamirpur	1007.35	86.6	0.5	11.6
3. Jalun	762.66	94.9	0.5	4.5
4. Jhansi	927.89	63.5	0.7	34.1
5. Lalitpur	849.84	83.7	2.9	7.2
Bundelkhand Region	936.92	83.8	1.9	12.9

1	2	3	4	5
1. Allahabad	890.47	61.9	0.1	37.9
2. Azamgarh	645.30	82.6	0.0	17.4
3. Bahraich	581.16	91.2	5.9	2.3
4. Ballia	595.10	93.1	—	6.9
5. Basti	563.00	89.9	0.0	10.0
6. Deoria	694.15	93.7	0.1	6.2
7. Faizabad	611.70	84.3	0.0	15.7
8. Ghazipur	649.26	85.9	—	14.1
9. Gonda	603.90	86.1	4.3	8.4
10. Gorakhpur	573.80	84.0	3.3	12.6
11. Jaunpur	534.53	93.2	0.0	6.7
12. Mirzapur	999.63	61.2	4.5	33.0
13. Pratapgarh	706.86	86.7	0.0	13.3
14. Sultanpur	576.82	96.9	0.0	3.1
15. Varanasi	712.96	55.6	0.6	43.7
Eastern Region	664.10	80.1	1.2	18.5
1. Almora	963.38	83.8	9.4	6.8
2. Pithoragarh	1395.64	84.9	11.6	3.5
3. Dehra Dun	764.67	54.0	10.8	33.5
4. Garhwal	983.51	79.0	17.9	3.1
5. Chamoli	1507.65	63.4	32.4	4.2
6. Naini Tal	1419.75	69.4	23.7	8.9
7. Tehri-Garhwal	842.58	77.4	17.8	4.6
8. Uttar Kashi	2020.00	52.9	44.8	2.3
Hill Region	1157.33	68.8	20.2	8.7
Uttar Pradesh	821.75	76.0	2.0	20.3

REGIONAL INDICATORS OF DEVELOPMENT

Indicators	Eastern Region	Hill Region	Bundel- khand Region	Central Region	Western Region	State
1	2	3	4	5	6	7
A—Socio-Economic Indicators :						
1. Revenue Villages (no.)	54,891	15,956	5213	16,297	32,119	1,24,476
2. Inhabited villages (no.)	49,392	14,970	4532	15,526	28,080	1,12,500
3. Density of population per sq. Km. (1981)	485	95	185	428	479	377
4. Decennial growth of population in 1971-81	+25.57	+26.42	+26.52	+24.47	+25.66	+25.49
5. Literacy percentage (1981)—						
(a) Total	24.28	39.29	28.69	27.72	28.19	27.15
6. Percentage of small and marginal holdings to total holdings (1980-81)	91.97	86.96	67.72	88.85	81.84	86.94
7. Percentage of area under small and marginal holdings to total holdings (1980-81)	58.53	47.84	26.25	55.95	42.36	948.29
8. Average size of marginal land holdings (in hectare) (1980-81)	0.33	0.34	0.48	0.41	0.39	0.37
9. Average size of holdings (in hectare) (1980-81)	0.75	0.99	2.12	0.96	1.22	1.01
B—Indicators showing Levels of Economic Development :						
1. Percentage of workers (1981) ;						
(a) Cultivators and agricultural labourers	79.08	69.32	78.27	75.75	69.16	74.55
(b) Household industry/manufacturing processing, servicing and repairs	4.47	1.49	3.15	2.49	3.60	3.69
(c) Others workers	16.18	29.19	18.58	21.76	27.04	21.76
2. Intensity of cropping (1982-83)	146.19	163.01	114.28	138.18	154.96	45.18
3. Per capita (Rural) net area sown (in hectare) (1982-83)	0.15	0.18	0.42	0.19	0.20	0.19
4. Per hectare consumption of fertilizers (Kg.) (1983-84)	66.30	46.44	18.89	3.35	78.96	65.69
5. Value of Agricultural Produce ;						
(a) Gross value of Agricultural produce per hectare of net area sown at current prices in Rs. (1981-82)	4293	5438	2399	4212	5291	4473
(b) Gross value of Agricultural produce per capital (rural) Rs. (1981-82)	651	948	1019	824	1073	850
6. Net domestic output per capita at current prices in Rupees, (1981-82)	603	1124	834	782	862	760
7. Number of workers in registered industrial establishments per lakhs of population (1981-82)	322	441	183	1258	875	682
8. Percentage of manufacturing sector to total net output at current prices (1981-82)	19.0	11.1	12.7	23.3	26.7	22.0
9. Percentage consumption of electricity in agriculture to total consumption (1981-82)	25.91	7.94	33.65	16.01	41.89	29.68

1	2	3	4	5	6	7
C—Indicators showing Levels of Development of Natural Resources :						
1. Percentage of area under forests to total reporting area (1982-83)	9.50	64.63	8.12	5.10	4.66	17.21
2. Percentage of net area sown to total reporting area (1982-83)	64.88	13.20	61.92	65.12	74.05	57.91
3. For cultivator net area sown in hectares (1982-83)	0.81	0.63	1.92	0.79	1.03	0.92
D—Indicators showing Level of Infrastructural Development :						
1. Percentage of electrified villages to total inhabited villages (March, 1985)	56.31	46.55	42.39	48.69	66.65	56.07
2. Length of pucca roads per 100 sq. Km. (1-4-85) (in Km.)	29.02	25.50	17.58	27.75	31.50	26.59
3. Length of pucca roads per lakh of population (1-4-85) (in Km.)	59.82	269.20	95.27	64.91	65.79	70.60
E—Indicators showing Levels of Social Services :						
1. Number of Schools per lakhs of population (September 30, 1984)						
(a) Junior Basic Schools	57.94	147.81	91.30	64.64	61.29	65.86
(b) Senior Basic Schools	11.65	26.65	17.86	14.03	12.09	13.19
(c) Higher Secondary Schools	4.42	15.26	4.78	3.81	5.27	5.10
(d) Degree Colleges	0.35	0.60	0.35	0.33	0.36	0.36
2. Allopathic Hospitals ;						
(a) Number of Allopathic Hospitals/Dispensaries per lakh of population (December 31, 1983)	2.34	14.66	3.32	3.02	2.40	3.06
(b) Number of beds in Allopathic Hospitals/Dispensaries per lakh of population (December 31, 1983)	43.43	139.95	54.95	64.79	44.20	52.24

**STATE : UTTAR PRADESH
DEMOGRAPHIC FEATURES & URBAN GROWTH**

	Total	Urban	Rural
1	2	3	4
1. (i) Area in sq. kms. 1981	50,376	1199.4	49176.6
(ii) Population		1971	1981
Total Million		88.34	110.8
Urban million		12.38	19.9
%		14	18
(iii) Growth Rate %		1961-71	1971-81
Total		18.2	23.0
Urban		27.1	48.5
(iv) Density (persons per sq. Mts.)		1971	1981
Total		300	377
Urban		4356	4364

2. **Goa. political Divisions** The State has 57 districts and is divided into five economic Regions—Western Region, Central Region, Eastern Region, Bundel Khand Region, and Hill Region.

3.1 Population Concentration

DISTRIBUTION OF UNDER POPULATION BY SIZE OF CLASS OF TOWN

Towns	1971		1981		In-crease (+) Decre-ase (—) in % of urban population
	No. of Towns	% of Urban population	No. of Towns	% of Urban population	
1	2	3	4	5	6
I	22	57.06	30	51.39	(—)
II	20	10.83	36	12.43	(+)
III	67	16.70	86	12.64	(—)
IV	91	10.44	194	13.40	(+)
V	80	4.74	232	8.70	(+)
VI	13	0.24	81	1.44	(+)
Total	283	100.00	659	100.00	

3.2 Regional population / level of Urbanisation in 1981

Region	Total pop (Mil-lion)	Urban pop (Mil-lion)	% of Urban popu-lation	Annual Urban Growth Rate 1971-81	Density (per-sons per km.)
1	2	3	4	5	6
Hill	4.81	0.89	18.4	4.68	95
Western	39.35	9.33	22.8	5.05	476
Central	19.70	4.15	21.4	4.41	427
Eastern	41.58	4.45	10.7	4.94	485
Bundelkhand	5.44	1.08	19.9	5.57	184
Total	110.44	19.90	18.01	4.90	377

4. Urban Features

4.1 The urban population of Uttar Pradesh is 19.97 million out of total population of 110.86 million (1981 census). This is expected to grow to 32.42 million in 1991 and 52.60 million in 2001. As percentage to the total population, it will increase from 18% in 1981 to over 30% in 2001.

4.2 The State is divided into 5 economic regions—Hill, Western, Bundelkhand, Central and Eastern. The Western region accounts for about 47% of the State's urban population. However, it has only 35% of the total population and only 28% of the geographical area.

4.3 There are 659 towns in the State—nearly half of them in the Western Region. This region also accounts for 19 out of a total of 30 Class-I cities. The Eastern regions has shown the lowest level of urbanisation with only 10.7% of its population being urban population.

4.4 Among the towns having a faster growth rate than the national rate of 46.02% (1971-81), the State accounts for 80 towns (7 Class-I, 15 Class-II, 23 Class-III, 22 Class-IV, 10 Class-V and 3 Class-VI).

5. Economic Scene

5.1 The State's economy is largely agriculture based. The primary sector accounts for 51% of the State's income and the secondary sector contribute 19%. The Western Region accounts for roughly 40% of the total output of the State.

5.2 It is expected that the urban job-seekers as a result of the fast urban growth, are likely to be around 2-3 million by 2001. In the next 15 years, more than 2.5 lakhs jobs will have to be created annually. The profile of unemployment & job seekers reflects a large percentage of illiterates. Obviously, therefore, the types of jobs in the tertiary sector will have to be provided by large urban centres with strong economic base.

6. Urban Planning & Administration

The responsibility for Urban Planning, Administration & Finance is shared by the following agencies :

- (i) The Municipal Corporation,
- (ii) The Municipal Board,
- (iii) Town Area Committee,
- (iv) Notified Area Committee,
- (v) The Jal Nigam & the Jan Sansthan,
- (vi) The Directorate of Local Bodies,
- (vii) The Directorate of Urban land Ceiling,
- (viii) The Towns & Country Planning Deptt.,
- (ix) The Development Authorities,
- (x) The U.P. Housing & Development Board,
- (xi) The prescribed Authorities for Regulated Areas.

Coordination of all these agencies is done by the State Housing and Urban Development Deptt. which also oversees municipal budgets, staffing and urban development programmes of the different agencies.

7. Problems of Urban Development

Inadequate Infrastructure

There are wide gaps in the provision of infrastructural facilities in terms of housing, water supply & sewerage etc. About 45% of the urban population does not have access to a safe water supply, 55% to electricity and 27% to any latrine facility.

1. Land

There are various problems relating to land supply such as acquisition of land by public authorities, imbalances in the supply and demand for services land as well as lack of information regarding land availability, absence of proper land records, land use controls etc.

2. Water Supply

The average domestic water supply in the urban areas varies from 60 to 100 Lpcd. About 40 to 50% of urban population depends on public standposts and dug wells. About 30% to 35% of water is lost through wastages & leakage.

3. Sewerage & Drainage

(i) Most of the urban areas in the State have night-soil collection services through buckets. Inadequate sewerage system even in big cities leads to unhygienic environmental conditions.

4. Housing

It is estimated that about 30% of the State's urban population is residing in slums or slum-like conditions. Against an anticipated requirement of 6.66 lakhs houses, during the Sixth Five Year Plan period

(1980-85), the public sector contribution was only 1.30 lakhs houses. The housing activities of the private sector are severely affected by the Land Ceiling Acts and the Rent Control Legislations.

5. Roads & Traffic

The effective road capacity has become further limited by road encroachments, bad conditions of side walks and indisciplined usage of road space. Traffic enforcement legislations and parking facilities are lacking.

6. Financial

(i) Funding urban development is a major problem for all civic Administrators. The ability of cities to raise adequate revenues to cope up with the demands for urban services have proportionately fallen leading to poor maintenance and coverage of infrastructure services to cover new inhabitants/areas.

(ii) The per capita tax realisation for 9 major cities (Agra, Aligarh, Allahabad, Bareilly, Ghaziabad, Kanpur, Moradabad, Lucknow, & Varanasi) varies from Rs. 26/- to Rs. 62/-. Taxes generally from 50-65% of the resources, with income from other receipts ranging between 10-15% on an average. Grants represent nearly 25% of total revenue receipts.

8. Some policy Directions of future urbanisation

The growing emphasis on the systematic organisation management of positive urban development policies need to take into account the followings .—

- (1) Policies should be designed to suit the continued needs of urbanisation.
- (2) Need for positive urban development approaches based on inter-relationship between rural and urban development and in the formulation of policies and promoting the economic development of towns and cities.
- (3) Need for investment oriented approaches to urban development.
- (4) Need for strengthening the institutional capabilities and resource mobilisation to meet the capital costs and maintenance expenditure of urban development works.
- (5) Need for development of an apex institution for financing the capital projects of local bodies and agencies.
- (6) Need for training in the techniques of Urban development and management.
- (7) Need for a defined investment policy regarding promotion of industrialisation versus urbanisation.
- (8) Need for an integral approach to industrial-cum-urban infrastructure planning in the context of overall development plan.

WEST BENGAL

NOTE FOR NATIONAL COMMISSION ON URBANISATION

URBAN DEVELOPMENT PERSPECTIVE

It is now widely acknowledged that the processes of urbanization are rooted in the historical evolution of the dominant socio-economic forces. The imperatives of imperial rule in India necessitated the insular growth of colonial cities like Calcutta and Bombay. These cities did not grow naturally out of a healthy symbiotic relationship between the city and country side. On the contrary, these were artificial entrepôts located as sea ports to siphon off the wealth of India to serve the imperial purpose.

Post-independent urbanization in India has tended to follow the pattern set during the colonial regime. The dominance of the primate cities and the relative neglect of the 'hinterland' have continued at the national level. It is in this larger context of trends of urbanisation at the national plane that one has to understand urbanization pattern at the State level.

Urbanization Profile

West Bengal is one of those States whose rate of growth of total population has been slowing down over decades. The decadal growth rate of 33% in the 1951-61 decade slowed down to 27% in 1961-71 and to 23% (2 percentage point less than the national average) in 1971-81. While this is a commendable situation recorded by the State, the growth rate of urban population of the State was not as encouraging, if urbanisation is considered as an indicator of economic progress. In terms of decadal increase in urban population, West Bengal occupied sixth position (36.0%) among 15 larger States in the 1951-61 decade, which slid down to fourteenth position (28.4%) in 1961-71 decade and slightly moved up to thirteenth position (31.6%) in 1971-81 decade. The decadal increase in urban population of the State was about ten percentage point less than the national average in 1961-71 and little over 15 percentage point less in the 1971-81 decade. While the rate of urban growth has been relatively slow, the degree of urbanisation has almost stabilised. In terms of percentage urban population in the total, West Bengal was still the fifth most urbanised State (25.88%) in 1951, fourth in 1961 and 1971 (24.45% and 24.76% respectively) and sixth in 1981 (26.49%). Although in 1981 West Bengal was preceded by Maharashtra, Tamil Nadu, Gujarat, Karnataka and Punjab in its relative position so far as

degree of urbanisation is concerned, the degree of its urbanisation has been increasing steadily although at a slow pace.

The relatively slow pace of urbanisation notwithstanding, West Bengal has been confronting a colossal urban problem due mainly to uneven spatial distribution of population. The high concentration of urban population per unit of geographical area as the State recorded in 1981 Census does not have a parallel in the country. The State's average density of urban population in 1981 was 5624 persons per square km., the highest in the country. The next highest was 4,648 in Punjab followed by Uttar Pradesh (4,355) and Haryana (3,924). The density in Maharashtra was 2,376 persons per square Km., almost half that of West Bengal.

A significant feature in urbanisation pattern of West Bengal is that about 70 percent of the urban municipal population of the State reside in Calcutta Metropolitan Area (CMA) alone which accounts for only 38 percent of the municipal geographical area. The dominance of Calcutta and its urbanised suburbs over the economy of the State has not undergone any substantial change since Independence. City of Calcutta was 31,615 persons per sq. km., out of 112 other towns (1981) only eight had density above 20,000, 16 had density between 10,000 and 15,000 and 81 towns had density below 10,000.

The above feature prevailed in the face of almost stagnant growth of population (4.5%) of Calcutta in the decade 1971-81 as compared to 31% growth of population in the municipal areas within the CMA, excluding Calcutta and Howrah, 39% in non-CMA municipal areas and 89% in non-municipal urban areas. Howrah had almost a zero growth rate (0.5%). However, the population growth rates of Calcutta and Howrah are not comparable to that of other areas. For other areas started with relatively low or very low base of population. As compared to Calcutta's 33 lakhs population (1981) and Howrah's 7 lakhs population, there were only 22 towns which had population between one and three lakhs each and 33 towns had population between 50,000 and one lakh each, and the rest below 50,000 each. Around 50% of the urban municipal population, excluding Howrah, dwell in the Calcutta city

itself. Furthermore, Calcutta city's Census population of 33 lakhs is illusory as day time population of the city increases by almost 30% due to the commuters. Thus, Calcutta city's effective population is over 40 lakhs.

The dominance of the metropolitan Calcutta over the economy of the State has led to a particular pattern of distribution of urban population, which consists of a super city (Calcutta), a giant city (Howrah), some medium towns and large number of small towns.

Before making an attempt to visualise the urbanisation perspective of the State, Calcutta's urbanisation perspective needs to be separately visualised in that it has its own special historical reasons of its growth, demographic pattern and crisis. Calcutta's urbanisation perspective and its problems cannot be perceived if the historical realities are ignored. At the first instance it cannot but be recognised that the tap-roots of Calcutta's crisis travel much beyond the territorial boundaries of the state of West Bengal. Calcutta suffered and will continue to suffer so long as economy of its vast hinterland suffers, which includes areas like Eastern U.P., Bihar, Orissa and Assam. West Bengal's sufferance in general and that of Calcutta in particular stem also from an international event manifested in the transfer of huge population from East Pakistan to West Bengal. In 1961, "more than 30 percent of the urban population of the hinterland (was) concentrated in a single strip of 200 square miles of urbanised land forming Calcutta conurbation on the east and west bank of the River Hooghly". To be more precise, in the 1961 Census, out of the 784 thousand persons who migrated to Calcutta, 542 thousand persons or 70% had come from various parts of the country: 160 thousand from within the State, 183 thousand from Bihar, 33 thousand from Orissa, 0.71 thousand from Uttar Pradesh, 5 thousand from Assam, 16 thousand from South India, 24 thousand from Western India and 42 thousand from other parts of the country. During the same period 228 thousand or 30% of immigrants entered Calcutta from East Pakistan and stayed on. As per official records, 25% of the displaced persons from East Pakistan, by 1961, settled in Calcutta itself, and more than 30% settled in the Calcutta metropolis. Actual figures would be much higher. Refugee influx went unabated beyond 1961, particularly between the period 1965 and 1971.

Except a small percentage, the migrants from other parts of the country had to move out of their home out of economic compulsion, in search of jobs in Calcutta. Barring the barest minimum of the income needed just to keep themselves alive, such migrants remit to their home whatever they earn in the place of their work. The refugees who migrated out of political compulsion struggled for existence for long with state assistance and their own efforts, before they could settle down, even in poverty situation, after almost 2 to 3 decades. This is the base on which Calcutta's population grew since 1951. During the 1971-81 decade, the past trend of migration has declined, which, in the absence of migration data,

can be guessed from the almost stagnant growth of population of Calcutta and Howrah and relatively low growth rate in the metropolis in general. On the other hand, rates of urbanisation have reached all time peaks in Uttar Pradesh (60.6%), Bihar (54.8%) and Orissa (68.6%) as compared to 31.7% in West Bengal. However, the demographic pattern set in the metropolis upto the 60's decade still persists.

The regional perspective

Somewhat similar to Calcutta, though much less in magnitude, some towns of the state, which have grown or have been growing very fast during the last two decades are the destinations of the in-migrants largely originating from areas beyond the geographical boundaries of the State. Three of such examples are Durgapur, Kharagpur and Siliguri. Durgapur registered a population growth rate of 395.58% in 1961-71 decade and 50.72% in 1971-81 decade. The growth rate in the decade 1971-81 for Kharagpur and Siliguri were 141.94%, 57.80% respectively. It may be conjectured that these growth rates were largely accounted for by in-migration from other states.

From the above scenario, imperatively, the urbanisation of Calcutta Metropolis in particular and that of the larger towns of the state in general, can not be perceived as a phenomenon caused entirely by intra-state inter-play of economic forces. It depends to a great extent on the urban development perspective, policy and strategy adopted and pursued by different states in the eastern and north-eastern regions. It depends *inter-alia* on the rural development policy and industrial development strategy, more particularly industrial location policy of the entire region.

Growth of Market Towns :

As the Census 1981 indicates, large number of *intermediate urban units or market towns* have sprung up in West Bengal to serve as some kind of a *trap for bulk of the migrants from the rural to urban areas*. This explains the highest rate of urbanisation in the non-municipal Census towns followed by that of non-CMA municipal towns and the CMA. In the 1971-81 decade, out of the 92 non-municipal towns with a population of more than 10,000 persons each, having no industrial base whatsoever, 20 (21%) had population growth rate of 65% and above, 34 (37%) had 50% and above, and 42 (45%) had 35% and above. Again, in the same decade, among 54 municipal towns with more than 10,000 population each, drawing economic sustenance from their respective rural hinterlands, 13 (25%) had population growth rate of 35% and above. *Evidently, large number of new rural growth centres have not only emerged in the recent past but also have growth at very fast rates as compared to municipalised rural growth centres.* As already stated, it may be conjectured that these rapidly growing rural growth centres have been the receptacle of a substantial portion of the potential in-migrants to the metropolis. This phenomenon is the manifest effect of the rural development policy pursued by the State in recent times.

State's Perceptions

After coming to power, the Left Front regime in West Bengal made a conscious attempt to spell out the State's urbanization and urban development policy as an integral part of the State's overall development perspective. The West Bengal Urban Development strategy Committee set up in 1979 expressed the mood of the new regime very succinctly. The major highlights of the Committee Report are as follows :

1. Balanced Urban Growth

Urban development in West Bengal has traditionally been conceived in terms of tackling the problems of Calcutta and its environs. Consequently, efforts for urban development got bogged down in Calcutta only with no satisfactory solution in sight. There are clear evidences now to suggest that improvement of Calcutta alone will be self-defeating. The towns in the State must be provided with minimum urban facilities to enable them to hold back population. A new urban policy must therefore spell out in broad terms an approach to a balanced urban growth even with limited resources.

2. Narrowing the gap in investment allocations

As a corollary, a conscious effort should be made to narrow down the gap in the allocation of per capita expenditure between the Calcutta area and other local bodies. So far, the per capita development expenditure in Calcutta had been disproportionately high as compared with expenditure in other towns. As the Committee observed :

"The pressure on Calcutta will never be eased unless other towns are sufficiently developed to hold the population back. This development should include new employment opportunities also. The overall picture is that unless other population growth centres are adequately developed, the problems of Calcutta will not be satisfactorily dealt with".

"In the year 1976-77, the per capita planned expenditure in Calcutta-Howrah area was Rs. 61.54, while that for the other CMD (CMA) local bodies was only Rs. 19.88, and the corresponding figures for the remaining non-CMD (CMA) local bodies was only Re 0.87. From the year 1978-79, however, more attention is being paid, for the first time in recent history, on the other CMD (CMA) local bodies and specially on all non-CMD (CMA) local bodies. As a result, in 1980-81 the per capita planned expenditure figures for Calcutta - Howrah - Bally area, other CMD (CMA) local bodies and non-CMD (CMA) local bodies have become Rs. 59.53, Rs. 30.40 and Rs. 13.84 respectively." This policy is still being consciously pursued. However narrowing down the gap in the allocation of per capita expenditure between Calcutta area and other local bodies does not purport to reduce the future investments in the Calcutta metropolis. What is aimed at is higher per capita investment in other areas. For the metropolis there is immediate need of more per capita investment even to keep the existing civic infrastructure in good operating conditions, and much larger investments in near future to meet

even the minimum needs of civic services of the existing and future population.

3. Stimulation of non-municipal growth centres

Population growth centres which are not yet municipalities such as Block headquarters are important links between rural and urban activities. Adequate facilities should also be developed in these centres to check population flow towards large towns.

4. Priority within a town the pro-poor bias

In view of resources constraint, within a town, priority should be given to those schemes which can improve the most backward areas. Certain general schemes on drainage, conservancy etc. embracing nearly whole town may be necessary; but as things now exist, the problems of drinking water, drainage, sanitation and roads are most acute in the areas inhabited by the poor. Attention should first be given to those areas.

5. Projects with a bias towards economic development

In order to stimulate new employment, schemes for building market centres for agricultural and cottage industries produce, centres providing facilities for setting up cottage and small scale units, repairing shops of various types etc. should be encouraged. Such schemes may prove to be money earning schemes for the local bodies.

In conformity with the policy laid down by the Committee, actions have already been initiated by various public agencies. To cite a few, Rajpur and Nabadwip municipalities have launched compost manuring schemes firstly with the objective of recycling urban solid waste, secondly to provide essential organic manure to their rural hinterlands and thirdly to earn some revenue. Again, within Calcutta, a major sewage-fed fishery scheme is now being formulated firstly with the objective of adopting a low cost but effective option for the disposal of city's liquid waste, and secondly for augmenting the supply of fish to the city.

6. Low cost technology

In the various construction activities, local materials should be used as much as possible and the technology should be labour-intensive. Scarcity and high rising prices of steel, cement, etc. will make the schemes dependent on these costly items, and such schemes are likely to be held up because of interruption in supply. To follow it up, a new set of specifications will be necessary for the guidance of municipal authorities, and this task of drawing up of appropriate specifications by a small group of experts should be taken on hand immediately.

7. New organisational set-up

A decentralised organisation pattern is to likely step up the work of municipalities. The elected peoples' representatives of the municipalities should

be given more power and strengthening by technical persons like engineers and financial experts. At the level of the locality, ward or *Mohalla*-level citizens committees may be very useful to involve local people in development work. Even then, a district level coordination committee may be necessary.

Thus, the Urban Development Strategy Committee laid down a clear policy guideline favouring balanced urban development, use of low cost technology, attention to the condition of the urban poor and decentralisation and grassroots participation in development.

West Bengal Municipal Finance Commission
Close on the heels of the Urban Development Strategy Committee, the West Bengal Municipal Finance Commission was set up under the Chairmanship of Prof. Bhabatosh Datta to examine the state of municipal finances in West Bengal and to recommend measures for streamlining State-municipal fiscal relations and domestic resource mobilisation by the municipalities themselves. The Committee report is a land mark in the history of municipal government in West Bengal. In conformity with the general policy of the State Government to push through urban development with local government participation, the Committee found it socially desirable to encourage healthy growth of municipal institution as local instrumentalities of urban development.

As a sequel to the report of the WBMFC a new grant structure has been introduced by the State Government to ensure municipal financial solvency and to encourage steady capital investments for new development works.

Balanced urban development, as the Urban Development Strategy Committee suggested, has to have proper institutional support. The general policy of local development through local governments and municipal financial stimulation would, in all probability, live up to the objective of institutional support system as envisaged by the Urban Development Strategy Committee.

Incidentally the municipalities in West Bengal are assured of annual per capita development fund to enable them to undertake small scale development projects within their jurisdiction.

The major thrust of State policy in regard to urbanisation and urban development in this State may now be identified broadly as follows :

1. Legal - institutional : In recent times, a number of legislations have been passed to cover a wide range of activities and institutions related to urban development. The notable legislations are :
 - a. The West Bengal Town and Country Planning Act - 1979
 - b. The West Bengal Central Valuation Board Act - 1979
 - c. The Calcutta Municipal Corporation Act - 1980
 - d. The Howrah Municipal Corporation Act - 1980

e. The thika Tenancy (Amendment) Act -

Besides these acts, the Bengal Municipal Act 1932 has been radically revised and a committee has been set up to draft a new law for the municipalities in order to enable them to adjust to the changing condition of today.

In the field of institutional development, some major instances are the creation of the Central Valuation Board and the introduction of the Mayor-in-Council system in Calcutta and Howrah. The Central Valuation Board has been set up to evolve a rational method of valuation of properties for rating purposes, while the Mayor-in-Council system in the two large corporation cities in the State for the first time introduces a cabinet type of political executive at the helm of municipal affairs.

2. Fiscal - financial : To facilitate local urban development basically with the help of the municipalities, some steps have been taken. As already stated; the new grant structure and revolution of substantial development fund to municipalities are expected to serve this purpose. The recommendations of the Municipal Finance Commission are now in the process of being implemented. A new budget format has been introduced to streamline the municipal budgetary and financial management.
3. Administrative - managerial : The State Government has been conscious of the need for improving management development at all levels concerned with urban development. For training and research in the field of urban and municipal development the State level institution called the Institute of Local Government and Urban Studies (ILGUS) was set up in 1982. The ILGUS is engaged in training activities to improve municipal performance generally and in specific sections. Also, ILGUS has been performing the role of a brains trust for the State Government in different policy areas. Besides, two other training institutions need special mention : Calcutta Corporation's Institute of Urban Management and the CMDA training centre both of which are in-house arrangements for the training of the staff of the respective organisations. The State Government has also taken steps to strengthen the Directorate of Local Bodies to generally help and guide the municipalities and to monitor the operation of the revised grant structure. Another important administrative development has been the setting up of the Municipal Engineering Directorate, attached to the Local Govt. & Urban Development Department, to help the municipalities in preparing and implementing development schemes of different kinds, especially those pertaining to IDSMT.
4. Pro-poor orientation : An important policy plank has been to consciously orient urban

development activities toward improving the living condition of the urban poor. In this context, mention has been made of the special bustee development fund statutorily created as an integral part of the Calcutta Corporation's total budgetary outfit. As earlier stated, the Urban Development Strategy Committee laid emphasis on development projects to directly benefit the areas inhabited by the poor. Currently within the Calcutta Metropolitan Area two important anti-poverty programmes are under implementation. The first is known as the Small Scale Entrepreneurship Programme (SSEP) and the second programme is on health and nutrition, for the bustee dwellers. The first programme is intended to improve the economic condition of the slum dwellers by facilitating loan fund for productive projects to be undertaken by individual slum dwellers. This is presently being run by the CMDA with the help of a number of public sector banks. The second programme aims at improving the health facilities in the bustee areas of the city.

A major effort is now underway to bring about planned development in the registered bustee areas, locally known as Thika Tenancy areas in Calcutta and Howrah. The Thika Tenancy law has been amended radically, authorising the Government to acquire bustee land and to develop the areas in a planned manner. The programme on low cost sanitation is also directed toward improving the living condition of the urban poor by providing cheap pour flush latrines financed wholly or partly from institutional fund.

Alternative growth foci

It has been the policy of the State Government to direct urban growth toward alternative centres in space. Accordingly, development authorities have been set up in three regional nodes: Siliguri-Jalpaiguri, Asansol-Durgapur, and Haldia. Planned development of Siliguri-Jalpaiguri is expected to radiate development impulses in North Bengal. The development of Asansol-Durgapur, industrial complex is likely to create a powerful anti-magnet to Calcutta. The new port of Haldia is similarly being planned to grow as a port-based and petro-chemical based industrial complex which is expected to create employment opportunities in the surrounding southern region. Fairly large-scale development fund is required to implement the plan proposals. For this purpose it may be necessary to evolve a national policy for financing urban development in the key nodal growth foci of different states.

Decentralisation in action

As stated earlier, the WBUDSC (West Bengal Urban Development Strategy Committee) felt that a decentralised organisational pattern was likely to step up

the work of the municipalities. Since early 80's urban development responsibilities, which were highly centralised in the past, were decentralised to a large extent. The plan grants which were given to the municipalities were linked to some schemes, and were not equitably distributed amongst the municipalities. Since early 80's this pattern of distribution of Plan grants was replaced by block-grant giving free hand to the municipalities to identify their area specific needs and priorities, and on the basis of that, to formulate development programmes and to implement them all by themselves. The Plan grant is now given on per capita basis. While this is the policy pursued now in general, it is more pronounced in the CMA. The active role of the municipal bodies in CUDP-III is a clear evidence of the actual pursued of the State policy of local decentralised development through the municipal bodies. Much before the commencement of CUDP-III in 1983-84, Rs. 94 crores out of total proposed investment of Rs. 330 crores in the CMA, over a period of five years under the CUDP-III, was allocated to 33 municipalities and notified area authorities and three corporations in the CMA. Keeping aside Rs. 11 crores for the Calcutta Municipal Corporation and Rs. 7 crores for the Howrah Municipal Corporation, the rest was allocated among the remaining local bodies on per capita basis. The allocation being intimated to them, these local bodies were left to themselves to formulate their five-year capital improvement programmes and to implement them by all themselves, of course with the technical guidance of the Calcutta Metropolitan Development Authority (CMDA) whenever they felt the need for that. The rest of the proposed investment has been allocated for only such schemes as are transmunicipal in nature or have area-wide implications. Similarly 20 mentoring the Centrally Sponsored Integrated Development and Howrah Municipal Corporation, which is a revolutionary change in the authority structure, as areas.

Within the CMA a further decentralisation process has just taken off. The introduction of the Mayor-in-Council system in Calcutta Municipal Corporation and Howrah Municipal Corporation which is a revolutionary change in the authority structure as already mentioned. The borough committees of these corporations have been given considerable functional and financial powers to take care of the proper delivery of civic services in their respective areas.

As of date there are 110 urban local bodies in the State : —

1. Calcutta Municipal Corporation
2. Howrah Municipal Corporation
3. Chandernagar Municipal Corporation
4. Municipalities (94)
5. Notified Area Authorities (10)
6. Town Committees (3).

The broad functions performed by the urban local bodies are : water supply, solid and liquid waste management, road construction and maintenance, street lighting, maintenance of parks and play grounds, municipal markets and slaughter house, preventive health care, primary education (only some local bodies), enforcement of building regulations etc. All these functions have been made obligatory in the Calcutta and Howrah Municipal Act. In other local bodies, including Chandernagor Corporation, except conservancy (waste management) all functions are discretionary. However, by conventions, performance of all of these functions has become almost mandatory. All local bodies have the power to introduce user charges and to go in for commercial enterprises.

The special *problems of the urban local bodies* may be grouped under two categories : (i) *chronic financial crisis* and (ii) *management gap*. The urban local bodies' dependence on the revenue transfer from the State has been growing at an increasing rate over years. *Around 50 to 80% of their recurrent commitments are met out of shared taxes and revenue grants.* This is in the face of the fact that the standard of civic services that they could provide are much below even the minimum needs of the urban populace. The traditional dependence of the urban local bodies on property tax so far as local source of revenue is concerned, whose base is almost in elastic (WBMFC Report), has kept down the growth of their yield from own sources of revenue to a very low rate. And given the low level of civic services provided by them, introduction of user charges in addition to property tax was not a feasible proposition, recently Calcutta municipal corporation has introduced user charges for water supply). On the other hand, commitments have been continually growing. In the recent past besides inflationary pressure, the total wage bills of the municipal employees have increased manifold due to their pay equilisation with that of the State Government employees and also due to price index-linked inflation compensation committed to them. Furthermore, the O & M liabilities are also on the rise due to implementation of various municipal development schemes. Consequently, deficit in the recurring budgets are widening increasing the dependence of the urban local bodies on the transfer from the State.

The management gap in the urban local bodies stems primarily from their financial crisis and low level operation. Besides their inability to hire qualified and experienced technical and managerial staff, they did not have the necessary conditions for developing managerial competence. The development responsibilities in the past being highly centralised (except for Calcutta Municipal Corporation), the municipal bodies' functional responsibility was limited to maintenance of whatever assets created and for giving some services, which neither needed much expertise nor the municipal bodies could hire professional managers, given their financial plight. With the policy of decentralisation of urban development responsibilities which is now being pursued, the dimension of the role that the urban local bodies are

now expected to play has significantly changed. Thus, the management gap is felt more now than before. The State has provided for secondment of four key officers, viz, Executive officer, Engineer, finance officer and Health Officer in each municipal body. Undoubtedly the culture of an institution that prevailed through more than one and a half century can not be changed overnight. But with the development responsibilities that the municipal bodies are now carrying out, and the support of the State that they enjoy now, the management gap will gradually narrow down in the foreseeable future.

Calcutta Urban Development Programme (CUDP)

The Calcutta Urban Development Authority is now implementing the third Calcutta Urban Development Programme commencing from 1983-84 and terminating in 1987-88. Preceding the CUDP III, the CUDP I (1970-71 to 1977-78) and the CUDP II (1978-79 to 1982-83) have been implemented by the CMDA. CUDP III characterises itself, as discussed earlier, by initiating a process of decentralisation of development responsibilities manifested in a two-tier planning and implementation approach, in which the projects/schemes of local significances are being planned and implemented at the local level and those which have area-wide significance are being planned and implemented by the CMDA. Furthermore, a change in investment pattern has been brought about in that relatively more emphasis has been given to the areas outside the metro core with the objective of achieving a decentralised process of urban development. Now, about 60 percent of the total investment is allocated outside the metro core.

The CMDA programmes are oriented towards improving the basic infrastructure and minimum needs of the people of this metropolis. Most of the schemes being addressed to the economically weaker sections which constitute more than 70 per cent of the population of the metropolis. For instance, a major part of CMDA's programmes includes massive investments for improving the living conditions of bustee dwellers. In the shelter programme, about two-thirds of the plots of sites-and-services projects have been earmarked for the low income groups and economically weaker sections. The changing pattern of investment with more weightage on investments outside the metro core would bring about relatively more benefit to the low income group and economically weaker sections of the people in the metropolis.

Small & Medium Towns

In the non-CMA the main problem is low economic base. Nevertheless population in these towns are growing (average 31% increase in the 1971-81 decade), not all due to natural increase but also due to immigration from their rural hinterlands. *The rate of increase in job seekers in the towns is much higher than the rate of creation of employment opportunities.* In the past no serious thought was given for the development of the small and medium towns outside the metropolis. Whatever developments

occurred were isolated and lopsided, and devoid of a clear perspective of the place that a town occupied in the matrix of rural-urban relationship. The result was fast deteriorating quality of life, rising unemployment, growing poverty and social tension.

News towns

The census 1981 identified 181 towns which were not municipalised. As per the provisions of the Municipal Act of the State 109 of these towns were eligible for municipalisation. Of these 109 towns six belonged to class II, 22 belonged to class III and 77 belonged to class IV, as per census definition. In class IV the number of towns (77) waiting for municipalisation was more than five times the number of towns municipalised. Since 1981, ten non-municipalised towns have been municipalised. The pace of municipalisation is slow primarily because of State's budgetary constraint—both capital and recurrent. The absolute dependence of the newly created municipalities on State's revenue transfer for the first 3 to 4 years apart, the State's commitment to meet 30 to 50% of their recurrent commitments continues, as the State is committed with regard to the budgets of the municipalities in general. Under the circumstances, given the resource constraint, the rate of municipalisation of towns can not but be slow.

All these different facets of States policy toward urbanisation and urban development in West Bengal reflect a unique philosophy of action. West Bengal has conceived urban development within a broader perspective of rural-urban development. There is an increasing realisation that the battle for urban development has to be fought in the field of rural development. Hence district planning has been introduced under the aegis of the district planning committee of the Zilla Parishad. Through the instrumentalities of the DPC in each district, integration of rural and urban development plans is being achieved. Municipal development plans are now integral components of the district plans. Furthermore, municipal development plans in a district are now being approved by the Zilla Parishad, the highest body of the three-tier panchayat system in a district. The effective performance of the DPC has largely been able to contain outmigration from rural areas and prevent compulsive transfer of rural population to the metropolis or large cities.

With the radically pro-poor development policy now being pursued in the rural sphere and the new shift towards balanced urban development in the urban sphere, it is expected that there will be more meaningful State intervention in the total development of the State, of which urban development is just a component.

National concern for Metropolitan Calcutta

As has been discussed earlier, metropolitan Calcutta's urbanisation perspective and its problems need to be separately visualised in that it has its own special historical reasons of its growth, demographic pattern and crisis, and that it can not but be recognised that the taproots of Calcutta's crisis travel much beyond

the territorial boundaries of the State of West Bengal. Importance of a metropolitan city like Calcutta is tremendous in the context of the nation as a whole. The Calcutta Metropolitan Areas provides specialised urban services and performs some key functions related to the national economy and hence for the development of the country at large. Some of these functions are :

- (i) acting as the national centre of economic activities like industry, trade and commerce;
- (ii) acting as the economic nerve centre of the entire eastern region;
- (iii) functioning as a very important regional, national and international node for traffic and transport, both passengers and goods;
- (iv) providing the location for regional headquarters of several Central Government organisations;
- (v) acting as the nerve centre for higher education, specialised health services and cultural and recreational activities; and
- (vi) providing an essential centre for the eastern-region as well as for the nation for utilisation of human potential in high technology and modern methods of research and development.

The growth and upkeep of such region-wide and nation-wide activities can not be sustained without first order intervention, that is, without the attention and assistance of the Central Government. It may be re-emphasised that the metropolitan Calcutta's development is essential not only for the ten million people who now live here but also for boosting up the economic activities in the entire eastern region in particular and in the country, in general. *The broad areas of development for which larger investments are needed now and in the near future are :*

- (i) renovation and strengthening of the existing economic and social infrastructure for effective operation and supporting the population and the activities in the metropolis;
- (ii) creating employment in the urban sector to reduce unemployment and under employment existing population and to create enough employment opportunities for the potential labour force;
- (iii) providing infrastructure, services and facilities for supporting the future urban growth;
- (iv) creating new centres of settlements at satellite towns to reduce the existing deficiency in shelter and to absorb the future growth of population;
- (v) taking effective measures for reducing air and water pollution for environmental protection and preservation of the cultural heritage in the metropolis.

Urban development in West Bengal as such would require huge investment in the future decades to respond to the massive challenge of providing employment, infrastructure services and facilities to the growing urban population in areas, both within and outside the metropolis. On top of the CMA would require massive investment for reasons mentioned above. In view of the importance of the CMA in the economic life of the eastern region in particular and that of the country in general, the fund required for meeting its essential development needs should certainly be shared by the nation.

FUTURE URBAN POPULATION IN WEST BENGAL

Population growth in West Bengal has been phenomenal between the period 1951-61 due to refugee influx in the Calcutta Metropolitan District. This was an international migration. But streams of migrants entered the Calcutta city and its Suburbs in search of job from the neighbouring states Bihar, Orissa & U.P. for a long time. Thus the growth of population in West Bengal does not only depend on the demographic gap, but to a considerable extent on net in-migration. So, in order to estimate the population for future, the component method of population projection is most suitable with an apprehension of future decline in fertility and mortality with the assumption of future trend of net in-migration. But to have a gross estimate of total population, mathematical models are suitable and future population of West Bengal has been estimated on the basis of an exponential model which fitted very well with the observed values of total population and urban population since 1901, through 1981. The future estimates tally closely with the projected figures given in the "Second West Bengal" project by the Indian Institute of Management, Calcutta.

Two estimates have been arrived at medium and the upper limits of the urban population in West Bengal. The project figures are :

TABLE—PROJECT POPULATION
UPTO 2021

Year	Total population (lakhs)	Urban Population (lakh) % of Urban population			
		Lower limit	Upper limit	Lower limit	Upper limit
(1)	(2)	(3)	(4)	(5)	(6)
1981	546	145	145	26.47	26.47
1991	667	177	192	26.57	28.73
2001	826	230	254	27.84	30.75
2011	1024	299	335	29.10	32.81
2021	1268	387	443	30.52	34.98

It is evident from the foregoing discussion that the urban population in West Bengal in 2001 would range between 23 and 25 million. If the policy of decentralised urban development is pursued during this period

it would be possible to check to some extent the rate of growth of population in Calcutta Metropolitan Area. In 1981 the CMA shared about 64% of the total urban population of the State. If this distribution Pattern continues till 2001 CMA shall have a population ranging between 14.5 and 16 million. It is expected that the efforts of decentralised urban growth would reduce the unevenness to some extent and the distribution pattern by 2001 could be of the order of 60 : 40. The CMA in that case would have a population ranging between 13.8 and 15.24 million by 2001. The projection made in CMDA from demographic point of view suggests the likely future population 2001 as 14.7 million. The distribution pattern between CMA and the rest of the State could be improved further by 2021. It is expected that with concerted and continuing efforts of decentralised urban growth, the distribution pattern could be brought down to 50 : 50. The share of CMA's population by 2021 in that case could range between 19.35 and 22.15 million. The demographic projection made in the CMDA indicates a population figure of the CMA of 20.48 million by 2021.

It is evident from the foregoing discussion that all the urban areas in West Bengal are going to grow in future. The CMA would grow at a slower rate but the rate of growth of the other areas would be much faster. This would require massive investment to provide adequate employment for the future urban population in these areas and also to provide infrastructure, facilities and services to support the future population. At the same time the need to continue investment in the CMA will remain because on the one hand, the existing facilities would require renovation, replacement and renewal and on the other, new facilities, services and infrastructure would be required to support the future growth. This would also require massive investment.

TABLE I
DECADAL VARIATION OF TOTAL AND URBAN
POPULATION (1901-1981)—WEST BENGAL

Year	Population (in lakhs)		% of urban population to total population	Index of population growth	
	Total	Urban		Total	Urban
1	2	3	4	5	6
1901	169.40	20.67	12.20	100	100
1911	179.99	23.49	13.05	106	114
1921	174.74	25.17	14.40	103	122
1931	188.97	28.96	15.32	112	140
1941	232.29	47.40	20.40	137	229
1951	263.00	62.81	23.88	155	304
1961	349.26	85.41	24.45	206	413
1971	443.12	109.67	24.75	262	531
1981	545.81	144.47	24.46	322	699

Source :— Census of India.

TABLE 2

**PERCENTAGE OF URBAN POPULATION IN THE
DISTRICT OF WEST BENGAL (1971—1981)**

Districts	% of Urban Population	
	1971	1981
1	2	3
1. Calcutta	100.00	100.00
2. Howrah	41.9	45.1
3. 24-Paraganas	35.2	38.8
4. Burdwan	22.7	29.4
5. Hooghly	26.4	29.4
6. Darjeeling	23.0	27.5
7. Nadia	18.7	21.5
8. Jalpaiguri	9.6	14.1
9. W. Dinajpur	9.3	11.2
10. Murshidabad	8.4	9.3
11. Purulia	8.2	9.0
12. Midnapur	7.6	8.5
13. Birbhum	7.0	8.3
14. Bankura	7.4	7.6
15. Cooch Behar	6.8	6.9
16. Malda	4.2	4.7

Source : Census of India.

TABLE 3

NO. OF TOWNS SIZE CLASS (1971—1981)

Size class of towns	No. of towns	% of urban population	
		1971	1981
100,000+	15	24	54.91
50,000—99,999	31	39	19.38
20,000—49,999	49	54	13.84
10,000—19,999	60	92	7.52
5,000 — 9,999	59	62	4.02
Less than 5000	9	20	0.33
TOTAL	223	291	100.00

Source : Census of India.

TABLE 4

**PROPORTION OF CALCUTTA AND CMD URBAN
POPULATION IN RELATION TO TOTAL URBAN
POP. IN WEST BENGAL (1971—1981)**

Year	% of Calcutta Population	% of CMD Population
1901	45	74
1941	45	76
1951	43	74
1961	34	69
1971	29	67
1981	23	63

Source : Census of India.

Part III

ANDAMAN AND NICOBAR ISLANDS

BRIEF NOTE CONCERNING URBAN DEVELOPMENT IN THE CONTEXT OF URBANISATION IN THE UNION TERRITORY OF ANDAMAN AND NICOBAR ISLANDS

General

The Andaman and Nicobar Group of Islands, according to the latest data available, are a Group of 572 islands, islets, reefs and isolated rocks laying in a North South direction in the Bay of Bengal extending from 6°N to 14°N latitude and 92°E and 94°E longitude covering a total geographical area of 8249 Sq. Kms. The islands are divided into two Districts viz. Andaman District having a geographical area of 6408 Sq. Kms. and the Nicobar District with a geographical area of 1841 Sq. Kms. The two Districts are separated by the 10° channel.

The composition of islands and rocks/reefs are as follows :

1. Named Islands	188	}	306
2. Unnamed Islands	118		
3. Named rocks	61	}	266
4. Unnamed rocks	205		
Total	572		

Out of the 306 islands, only 38 are inhabited out of which 22 are in the Andaman District and 13 in the Nicobar District.

As per 1981 Census the total population of the Islands was 1.89 lakhs out of which the Andaman District accounted for 1.58 lakhs and the Nicobar District 0.31 lakhs. The urban population in the Islands was 49,634.

The Islands have a tropical climate with the temperature ranging between 22°C and 30°C with an average relative humidity of 79%. The Islands get rainfall during both monsoons with an average of 292 Cms. a year.

Most of the Islands excepting a few in Nicobar District have an undulating terrain with main ridges running North South and spur hills running East-West. The average width of the Islands is around 20 kms. The highest point in the Islands groups is Saddle Peak in North Andaman rising upto 732 M above MSL.

Urban development

Port Blair, the only town and the Capital of the Union Territory of Andaman and Nicobar Islands was for the first time classified as urban area in 1951 with a population of 7,789 out of the total population of the Union Territory of 30,971. The growth of population is as under :

Year	Total Population	Urban population	Percentage	DEC variation	Density pr sq. km	Sex ratio
1951	30971	7789	25.15	—	859	545
1961	63548	14075	22.15	80.70	1786	573
1971	115133	26218	22.77	86.27	3298	558
1981	188741	49634	26.30	89.31	3510	720

It is therefore noted that urbanisation is taking place at a very fast rate and till now it is centred at one place i.e. Port Blair. But, it is important to mention at this stage that eight other settlements, one in each Tahsil i.e. Diglipur in Diglipur (North Andaman), Mayabunder in Mayabunder (Middle Andaman), Rangath in Rangath (Middle Andaman), Bambooflat in

Ferrargunj (South Andaman), Hutbay in Little Andaman, Kamorta in Nancowry, Malacca in Car Nicobar and Campbell Bay in Great Nicobar are growing fast and have pronounced urban characteristics such as predominant working force in non agricultural sides of economy, high density of population with many urban facilities like metalled roads, bus

services, power supply, piped water supply, markets, hospitals/health centres, schools, Govt. offices etc. It is therefore expected that these eight settlements may be classified as urban areas by 1991.

Present & anticipated

The population of Port Blair and the eight settlements mentioned above is given below :

Name of settlement	Name of Tahsil	Population 1981	Percentage growth 1971—81	Estimated population 1991
Port Blair.	Port Blair	49634	89.31	94000
Diglipur	Diglipur	2138	92.96	4100
Mayabunder	Mayabunder	1809	82.72	3300
Rangat	Rangath	2277	57.64	3600
Bambooflat	Ferrargunj	3686	68.15	6200
Kamorta	Nancowry	1032	130.35	2400
Nalacca	Car Nicobar	2457	31.32	3200
Hutbay	Port Blair*	2687	52.06	4100
Campbell Bay	Nancowry	2293	98.70	4500
			Total	125400

*Proposed to be tittle Andaman Tehsil

In addition it is anticipated that 8 adjoining villages of Port Blair with a population of 5500 in 1981 are likely to be added to the urban area of Port Blair which will enhance the estimated total urban population in the Territory by another 10,600 by 1991.

Hence the anticipated urban population shall be to the tune of 1,37,000.

Urban development planning is at its infancy in this Territory. There is small Town Planning unit which is attached to the Andaman P.W.D. to look after the works connected with planning etc. The Unit at present is having only one qualified Town Planner in the rank of Associate Planner. Three posts of Assistant Planners eventhough created in 60's and 70's they are still vacant due to various reasons. In addition one Junior Engineer, 4 Planning Draftsman, 2 Draftsman Grade-II and 6 Surveyors are available. Most of the staff have not got specialised training in Town & Country Planning.

So far no specific policy on urbanisation has been drawn up at the Union Territory level.

The agencies which are working for urbanisation are the Andaman P.W.D. and the Port Blair Municipal Board.

Since the master plan is yet to be finalised and a policy on urbanisation yet to be formulated it is not possible to say whether the ongoing programmes fit in with the Union Territory's perception of urbanisation. However, various elements of urban development are taken care of individually under respective sectors of the development and are carried out under the Plan Scheme.

There is no Metropolitan City in the Islands, Port Blair is the only town at present with the likelihood of around 8 more growth centres as mentioned earlier, being made urban by 1991. The main problem is scarcity and non-availability of land for developmental purposes. 86% of the total area of the territory is

under forest. Out of the balance area most of the land in and around the settlements are already allotted for various purposes such as agriculture, plantations, house sites etc. Originally the settlements under rehabilitation programme were established as penal/agricultural settlements. Therefore the settlements and villages are widely scattered resulting in haphazard development. Corrective action at this stage will involve heavy financial burden. The topography is rugged and the development of land, provision of services such as roads, footpaths etc. are quite expensive. Also drainage is a problem which calls for a careful Planning. For future development it is anticipated that we shall have to resort to acquisition of land in a big way.

In this Territory, the local body viz. Port Blair Municipal Board is not involved in the process of urbanisation in a big way. It is a small body with limited staff. In fact the Board does not have any Town Planner or Architect. The Board's activities, in so far as urbanisation is concerned are confined to water supply, sanitation and construction and maintenance of parks, construction and maintenance of drains, public conveniences etc. Most of the works are done through the Andaman P.W.D. in the above functions. For discharging its functions efficiently the Board's technical wings need to be expanded with qualified technical personnel.

Since there are only two agencies now involved in the programmes relating to general urban development there is no conflict at the moment.

The work of preparation of Master Plan for Port Blair was taken up in hand a couple of years back. The main problem faced was there was no base map of the town. The Survey of India was also requested but they also failed to supply the base map. The Town Planning unit, attached to the A.P.W.D. then had no alternative but to prepare the base map on its own. A small team of Surveyors under the charge of

a Junior Engineer was deployed to carry out physical surveys of the entire town area and its immediate surroundings. The work was completed in April 1986 and now the base map of the Port Blair have been finalised. Land use surveys have been carried out and existing land use map has been prepared. The proposed interim land use plan (draft) is complete and is being discussed in meeting of the high level committee constituted by the Lt. Governor. After the draft is accepted it shall be enforced after observing all codal formalities and the work on preparation of comprehensive development plan will be taken up in hand. The work on preparation of master plan for Rangath and Diglipur have been entrusted to the T.C.P.O. New Delhi. Similarly works on preparation of master plan for Mayabunder, Bambooflat, Hutbay, Malacca, Kamorta and Campbell Bay shall be taken up in a phased manner subject to filling up of all the vacant posts.

Urban Land Ceiling Act is not applicable in this Territory.

Regarding future prospects of urbanisation it is stated that at Great Nicobar there is a proposal to provide free port facilities. If the proposal comes through then there will be tremendous urban growth in Great Nicobar including Campbell Bay. With the increase in trade development there will be impact on urban growth in Port Blair also.

At present O.N.G.C. & Oil India are exploring the availability of oil and natural gas in the Territory near Mayabunder and Port Blair. If these natural resources are struck depending upon the economic viability there is possibility of urban growth at Mayabunder Port Blair.

A BRIEF NOTE ON HOUSING ON THE CONTEXT OF URBANISATION IN THE UNION TERRITORY OF ANDAMAN AND NICOBAR ISLANDS

In the Union Territory of Andaman and Nicobar Islands no comprehensive housing Policy has been framed, however under the Five year plans housing programmes are drawn up and implemented.

In the Seventh Five Year Plan under sector Housing the following schemes have been drawn up.

Sl. No.	Name of the scheme	Approved out lay	
		Rs.	Lakhs
1.	Low Income Group Housing scheme	25	„
2.	Construction of residential accommodation for work charged staff of A. P. W. D.	125	„
3.	Residential Accommodation for Govt. Employees in A. & N Islands.	225	„
4.	Police Housing Including provision or Bush Police.	200	„
5.	Establishment of Housing Board.	50	„
6.	Shelter for Homeless.	50	„
		675.00	Lakhs.

In addition under sector fisheries one scheme as follows is included.

7. Settlement of Fishermen families Rs. 10.00 Lakhs. Scheme Nos. 2 to 4 are basically meant for provision of residential accommodation for Govt. Employees of the Administration for allotment either as rent free or on payment of licence fee depending on the category of the employees.

Scheme No. 1 is essentially a loan scheme operated by the Deputy Commissioner for giving assistance to individuals of Low income category at Low rate of interest. @ Page-4.

Under scheme No. 4 provision has been made for establishment of Housing Board. The Housing Board when established shall undertake works relating to development of area and housing schemes for HIG, MIG, LIG, EWS, Artisans workers etc. and making available the plots and/or houses on terms and conditions to be worked out in detail. In the meantime layouts have been finalised for two scheme for development of plots for various categories of people.

Scheme No. 6 shelter for Homeless. This is a new scheme being undertaken under IYSH programme—shelter for all homeless by 2001 A.D. for which provision has been made for construction of 500 single roomed dwelling units for the poor during the plan period at an estimated cost of Rs. 50.00 Lakhs.

Scheme No. 7 (Fisheries) under this scheme provision has been made to provide house sites to 200 fishermen families and financial assistance for the construction of dwellings.

In addition to the above, the Union Territory Administration under the 20 point programme has drawn up programme for allotment of undeveloped sites to rural landless all over the Islands. Undeveloped plots of size 200 sq. M are being allotted to the beneficiaries under the scheme. It is proposed to allot nearly 7500 plots during the plans Period. The first year of the Seventh Plan approximately 800 plots were allotted. It is likely that about 1500 to 2000 plots shall be allotted during the current year.

The HUDCO has offered loans through the Co-Operative Bank for financing of Housing societies.

Presently in the urban area no other scheme except the Government Housing schemes for employees of the Administration including police, work charged workers of A.P.W.D. is in the process of implementation. However, scheme for development of house sites has been framed and is being examined for implementation.

So far no comprehensive surveys have been carried out for assessing housing stock, demand and shortages, However as per the estimates available in the Booklet--IYSH shelter for all by 2000 A.D. the housing shortage Union Territory was stated to be 14000 units. 12000 units in Rural areas and 2000 units in urban area. Based on population projections made here and assuming future family size in rural area as 4.5 and 4.0 in

urban area it is estimated that 24,000 additional housing units will be required in the rural areas and nearly 20,000 in the urban area during the period 1981—1991. This will be in addition to the existing shortage and the demand for replacement of the existing delapidated housing stock.

The main problems faced by urban Housing is the scarcity of land. Also the topography is highly undulating and in any given area the actual buildable land comes to only about 50% of the total land area and out of this roads and footpaths etc. consume quite a high percentage. Most of the basic amenities are provided at Govt. cost accounted under various sectors of the five year plans. Till the recent past most of the buildings were constructed using local materials i.e. timber. Off late the supply of timber is not able to match the demand and hence there is switch over from timber construction to R.C.C./C.C. construction. In addition to low supply another important factor is the fact that though the initial cost of the timber buildings is about 20-25% less than R.C./C.C. buildings the maintenance cost is considerably high. Except timber, sea sand and stone metal all other building materials viz. steel, cement, fitting and fixtures including wire nails are imported from mainland. The cost therefore is considerably high and supply also remains interrupted due to transportation difficulties. In the open market skilled labourers are also not available in required number and their wages are also very high. This is due to the fact that building activities are in progress simultaneously in the territory in the limited working session of about 4 to 5 months in a year owing to heavy rainfall of both the monsoons. No public housing institution is in existence at the moment but it is likely that a Housing Board shall be set up soon to take care of this, so far uncatered sector. Regarding problems faced in respect of finance it is stated that except the Government Servants who are able to avail for house building advances and a small number of beneficiaries who could avail of assistance under the Low Income Group Housing Scheme no other financial support had been made available. Loans from Commercial Banks/Co-operative Banks carry a very high rate of interest and are therefore not affordable. Recently the Andaman & Nicobar Administration had taken up the matter with HUDCO. Arrangements are being made to provide loan assistance to Housing Co-operatives by HUDCO at lower interest rates through the Co-operative Bank.

WRITE UP ON ENERGY

The Electricity Department was established during 1949, headed by a Assistant Engineer (Electrical) under the overall control of Harbour Master (Marine). The Department became independent in 1957 and a Division with three Sub-Divisions were created in the year 1966, having Port Blair, Car Nicobar and Mayabunder under its jurisdiction. Subsequently an additional Division was created in 1973 and the scope of work was evenly distributed between two Divisions.

The activities of the department in the field of power generation, transmission, distribution and its sale kept on increasing and ultimately the Government of India created a circle having three Divisions under its control. The three Divisions are named as :—

Head Quarter, Rural and Procurement and Stores.

The procurement and Stores Division is responsible for purchase and smooth supply of materials.

The jurisdiction of HQ. Division is the main Island of South Andaman, whereas that of Rural Division is all other Islands of Andaman & Nicobar group. They look after power generation, transmission distributions and its sale including implementation of Plan schemes in their respective jurisdiction.

All the three Divisions of Electricity Department are working under the over all control and supervision of Superintending Engineer, who is head of the Department.

Prior to independence there used to be a D.C. power House at Aberdeen Village, where now stands the old Municipal Board Office. The Chatham Power House was established during 1950-51, with two numbers mini steam turbo Generating set, which remained the only Power Station of the department till 1960. Thereafter many augmentation scheme were taken up. The diesel generating augmentation scheme for Power development programme during the Seventh Plan is proposed to be implement to meet the increasing requirement of the present days with a 10MW scheme at Chatham Power House shortly. In addition 3×300 KVA DG Sets have been installed and commissioned in Phoenix Bay Power House during July, 1986 by diverting it from other scheme on emergency basis and subsequently 2X1000 KVAA DG Sets will be installed against a scheme to augment the capacity on emergency basis at Port Blair. Further the department proposes to add 28 MW in the Union Territory during Seventh Five Year Plan. Out of which 12 MW will be added in South Andaman to cope-up with the power demand. The installed capacity of the Power House at Port Blair is of the order of 7720KW, which has been derated to 3255 KW. In order to meet the peak demand which is of the order 5800 KW. The department purchases nearly 700 KW of power from Naval Power Station at Haddo Wharf. The unit generated during the year is 15.18 MKWH, sold 13.94 MKWH, including purchase of 1.95 KWH from Naval Power House. The department has provided 12353 Nos. of domestic connection, 3541 Nos. commercial, 178 Nos. Industrial and 92 Nos. Miscellaneous including Photo Voltaic Street light and Mercury Vapour lamps.

The A&N Administration has decided to electrify all the Census villages in Andaman & Nicobar Islands during Seventh Plan, 1985—90 either by Conventional

or Non-Conventional Sources. The village electrification target for the year 1986-87 is 33. Out of which 5 villages have been electrified till June, 1986. The year wise phasing of the village electrification during the Seventh Plan are through Conventional Sources and 35 Nos. through New & Renewable Sources. So far as the Energy conservation drive programme is concerned the Andaman & Nicobar Islands are not free from Energy shortage and the department and Administration has taken conservative measure for creating better awareness towards energy conservation in general Public/Consumers by mean of All India Radio, Publicity etc. The officials of the department are visiting place to place to exercise check for curtailment of load and to avoid wasteful use of power by way of keeping off lights of their buildings and by avoiding decorative lights and heavy electrical energy consuming appliances during peak load period. This help of conservation of Energy will lead to National Economy.

The New & Renewable Source of Energy Programme for this Territory will include Power generation by Wind Mill Pumping of water from wells by using wind energy for irrigation and domestic/community use, electrification of villages with Solar Photo Voltaic Pannels, Solar Thermal heating devices for fish dryers, timber kilns and desalination plants etc. The Department of Non-Conventional Energy Sources deputed an expert team head by Shri Vaithilingam, Principal Murugappa Polytechnic, Madras on wind pump to these Islands for study potentiality of such system in these Islands. Another expert team from Bharat Heavy Electricals Limited, Bangalore, who are the Pioneer of Solar Photo voltaic system in India visited these Islands and expressed very bright scope for utilisation of Solar Photo Voltaic system for village electrification. An another expert team headed by Prof. Raju, Coordinator [Ocean Thermal Energy Conservation (OTEC)], I.I.T. Madras visited these Islands and submitted a favourable report recommending a 5 MW OTEC Plant.

The Government of India has provided Rs. 25.22 Crores for the Seventh Five Year Plan, 1985-90 to electricity almost the entire population of this territory and to meet the entire projected power requirement of different Government and Private Agencies. The Government of India has given special emphasis for development of New & Renewable Sources of Energy and accorded priority to such project considering huge drainage of Foreign Exchange, fuel crises, pollution etc. The Prime Minister has also desired that a special trust should be give nto New & Renewable Sources of Energy Programme and general public should be made acquainted with the use of the equipments and devices working on New and Renewable Energy Sources.

This is being achieved by putting up demonstration unit and supplying the same on subsidized rates. The Government of India has provided an amount of Rs. 80.00 Lakhs in the Seventh Plan for development of New & Renewable Sources of Energy Programme. The department has received four unit of Wind Pump from Nurugappa Polytechnic, Madras for undertaking a pilot project in defferent Islands, which have been

commissioned and are found with satisfactory result. Like-wise the department has acquired and commissioned two wind generator of 1 KW and 3 KW capacity from Indian Energy & Rural Technology, Allahabad performance of which is being monitored.

The Andaman & Nicobar Islands being close to Equater receive sun-shine almost though out the year and have very bright scope for utilisation of Solar Photo Voltaic system for village electrification. In this connection M/s Bharat Heavy Electricals Limited, has recommended for the electrification of 17 tribal villages after their preliminary study and formulated, which have been agreed, for implementation by the Ministry of Energy and 108 Nos. of Solar Photo Voltaic Streets lights have been procured at a cost of Rs. 9,47,430/-. A few places as Solar Photo Voltaic Street Light unit have been installed as demonstration units received from M/s Bharat Heavy Electricals Limited, Bangalore.

In addition the preliminary work in the field of Solar Thermal Heating System, Energy Plantation, use of Forest & Agriculture waste for power generation with the help of Modern Gassifirs are in progress Government of India has given a target to construct 40 Nos. of Bio-gas plants in the Territory, and the work is in progress.

Similarly the Government of India under New & Renewable Source of Energy Programme has allotted scheme and funds to demonstrate Smokeless/improved chulhas. The smokeless chulhas are being constructed by the trained ladies of this department. Till day 24 Nos. of such chulhas have been constructed for the benefit of the Rural Masses under National Project.

1. *State of environment in the urban context*

— Pollution control measures :—

At the moment the unique tropical eco-system with its wide rich flora and founa with a genetic diversity and natural beauty, are undisturbed. The pollution levels both of the air, water and sea have not been determined. However, there appears to be no serious pollution both of air and the sea around us. But this is appropriate time to see and take steps that there is no major pollution in the harbour and in the sea surrounding us by the way spills. The major factories should also have proper pollution preventive measures.

It is important to safeguard and that there is no pollution to the present water storage lakes and environments and to have proper sewerage systems.

While taking steps to prevent pollution great care should be taken to ensure that the coastal estuaries, mangrove forest and back waters are no way damaged or polluted because of their delicate condition.

— Deforestation :—

The rich tropical forests of these islands have been retained close to their pristine condition as possible by the silvicultural system being adopted by the department of forests. There has been no deforestation in the forest areas.

— Sanitation :—

An important point to be stated from the view of sanitation in urban Port Blair are the open areas used as toilets and the unhygienic system of carrying night soil in open containers, and the imperative need is to switch over of proper septic tanks for toilets and proper sewerage system.

— Open spaces/greens :—

There is lack of open spaces for play-fields. Though most of Port Blair is surrounded by Forest there is a need for play-fields and parks & gardens in Port Blair. It is imperative that certain green belts are incorporated into the present town and country planning schemes.

— Waste recycling :—

Fresh water is an acute commodity. Therefore the recycling of waste water on a long term basis should be sorted out and we should make provision at this stage for the same. The various water ponds in the urban areas of the earlier days should be properly used and not allowed to be a wasted.

2. Legislative measures for environmental planning

Legislative measures for environmental planning as existing in some of the major states like Maharashtra may be adopted with modification as suited to this environment.

3. Legislative measures for environmental protection vis-a-vis the urbanisation

This is proper time to devise suitable measures for environmental protection *vis-à-vis* urbanisation not only for Port Blair but for other mushrooming township in these islands.

**FAMILY PLANNING ASSOCIATION OF INDIA
ANDAMAN AND NICOBAR ISLANDS BRANCH
PORT BLAIR**

Brief Write-up on Family Planning and MCH Care Programme

The Family Planning Association of India A&N Islands Branch, Port Blair was started in the year 1977 to render Voluntary services in the field of Family Planning and Mother and Child Health Care Programme in rural as well as urban areas in and around Port Blair.

The branch is a non-political, non-sectaria and non-profit making, and have the following Aims and Objects.

1. To discriminate knowledge and education about, and to promote the adoption of the practice of family planning for the advancement of basic human rights, family and community welfare, the achievement of a balance between the population and its resources and environment, and the attainment of a higher standard and quality of life.

2. To assist wherever possible in the national programme of family planning by undertaking to carry

out various activities of a complementary, supplementary or innovative nature etc.

The following activities are undertaken by the branch :

1. Information, Education and Motivation

Survey of eligible couples is undertaken by paying house to house visit by the field staff of this branch. Eligible couples in the productive age group of 15—44 years is recorded, Personnel Counselling is rendered to the needy persons by holding group discussion etc.

2. Conference, Seminars, Workshop and Exhibition

To popularize the need of family planning to check population over-growth, the branch participates in Seminars Exhibition when held in these Islands. The last exhibition which was held at Port Blair from 23-2-85 to 3-3-85 was held at Port Blair from inaugurated by the President of India, Giani Zail Singh on 23-2-85. Films on Family Planning are screened to educate and bring awareness among the people.

Family Planning Campaign etc.

Intensive Nation Wide Family Planning Campaign are observed by the branch in which intensive motivational drive for sterilization is undertaken by conducting door to door visits for effective motivation among the people.

Essay Competition

To propagate the cause of Family Planning and to bring warness among Youths, Essay Competition on Family Planning, are held from time to time. The winners of the competitions are awarded suitable Cash Prizers.

Mother & Child Health Care Programme

Under the Mother and Child Health Programme, Women and Children are given medical check-up and treatment. The Immunization services etc. are also rendered to women and children (DPT, DT, Polis, Iron and Folic Acid Tablets, Vit 'A' concentrate etc.).

Through educational and motivational drive eligible couple are motivated to adopt any of the following Family Planning methods of their choice namely :—

1. Tubectomy
2. Vasectomy
3. I.U.D.
4. Oral Pill
5. Concom
6. Foam Tablets

Under the Maternal Health Care, Antenatal/Post-natal services are also rendered.

NOTES FOR DISCUSSION IN RESPECT OF
QUERIES MADE BY THE NATIONAL COMMISSION ON URBANISATION ON (MINISTRY OF
URBAN DEVELOPMENT)

Points No. 1

Industrial profile of the state :

There are 5 DGTD registered large/medium Scale Industries functioning in these Islands engaged in the manufacture of items such as plywood, Match Splints, Sawn Timber and Oxygen Gas. A Government owned Saw Mill is also functioning at Chathn. Besides, there are 475 Village and small Industries registered with the Industries Department. Most of these units are wood based since the timber being the locally available resources. A statement showing the break up of industries according to its classification, location etc. is enclosed in Table I.

Points No. 2

Infrastructure :

The Andaman and Nicobar Administration while Promoting industries in these Islands has been considering the locations points of view with reference to its availability to basic infrastructural sources of raw material, man-power etc. For the future industrial development, the Administration has identified such an areas in this U.T. for setting up Industrial Estates to provide all required basic infrastructural facilities for the smooth and orderly growth of Industries.

Points No. 3

Disbursal of Industries in rural areas :

At present more than 90% of the registered village and small Industries are functioning in South Andaman in an around Port Blair. With a view to disburse the further growth industries in rural and other parts of the Islands in this U.T. where resources are available, the Administration has proposed to develop Industrial Estates at Campbell Bay in Great Nicobar, Bakultala and panchavade in Middle Andaman. Besides this, one Industrial Estate at Dolly Gunj South Andaman very near in the existing Industrial Estate at Garacharma is also proposed to be developed in the near future.

Points No. 4

Problems faced by Industrialisation :

The Industrial Development in this U.T. is still in its infancy and hence the ill effect and problems connected to industrialisation have so far not been noticed.

Points No. 5

Industrial Growth pattern for 2000—2025 :

(a) Future/Potential

There are number of resources available in this U.T. which have not been tapped profitably so far its industrial exploitation. Hence there is a vast scope for setting up small scale industries for procession these locally available resources viz. coconut, coir, arecanot, rubber, mangrove, marine product etc. In addition, scope exists for demand based industries which can be set up in the small scale sector to cater to the local demand.

(b) Employment Opportunities

The urban population in the area particularly the educated unemployed youths to go for service in the Government or private sector. The scope for their absorption in Government job is very much limited. However, if industries are set up it process the locally available untapped resources there appears to have put employment opportunities for the local population. The self employment programme of the Government of India has provided tremendous opportunities to the educated unemployed youths to set up small industrial and small business for self employment and also create employment events for others.

(c) Areas for further Industrialisation

As already stated in point No. 3 above, the Administration has already identified certain areas for setting up Industrial Estates to provide basic infrastructural facilities for further growth of industries.

(d) Industrial Workers' Housing

The existing large/Medium scale Industries are normally providing housing facilities to its workers in and around the factory. However, no separate industrial workers housing programme has been taken. However, this may also be taken into account while developing the future Industrial estates in this U.T.

ANNEXURE
INFORMATION UP TO 31-3-1986

S. No.	Type of Industry	South Andaman	Middle Andaman	North Andaman	Little Andaman	C/Bay	Total	Gar Total Nicobar
1	2	3	4	5	6	7	8	9
1.	Forest (Wood based.	100	10	8	2	2	Nil	122
2.	Agrobased	44	10	4	3	6	Nil	67
3.	Marine Based.	28	2	2	Nil	2	Nil	34
4.	Food Based	33	6	6	1	1	Nil	48
5.	Mineral Based.	24	2	—	Nil	Nil	Nil	27
6.	Chemical Based.	29	Nil	—	Nil	Nil	Nil	30
7.	Leather based Industry	5	Nil	Nil	Nil	Nil	Nil	5
8.	Engineering Based	95	4	Nil	Nil	Nil	Nil	101
9.	Textiles.	16	Nil	Nil	Nil	Nil	Nil	16
10.	Coir Based	1	—	Nil	Nil	Nil	Nil	1
11.	Misellaneous (including paper conservation packing process etc.)	23	1	Nil	Nil	Nil.	Nil	24
Total		398	35	24	6	11	1	475

CHANDIGARH

NOTES ON VARIOUS ASPECTS OF URBANISATION IN RESPECT OF UNION TERRITORY DEPARTMENT OF ARCHITECTURE

Item No. 1 ENERGY

1. An appraisal of the availability of energy in Urban areas from various sources.

Conventional & Non-conventional

Production & Distribution pattern

In U.T. Chandigarh we are getting supply from three different hydro sources i.e. 132 Sub Station Pinjore, 220 KV Sub-Station Dhulkote and 220 KV Sub Station S.A.S. Nagar. All these supplies terminate at the existing 2 Nos. 66 KV Grid Sub Station in Sector-28 and 52. The installed capacity of Sub-Station in Sector-28 is 61.5 MVA and in Section-52 is 10.12.5 MVA. The distribution of supply to U.T. Chandigarh is through 33 KV net works. There are in all five 33 KV Sub-Stations at appropriate load centres and these in turn feed different parts of the city through 11 KV feeders.

Chandigarh has got no generation of its own. It has got a diesel power house of derated capacity of 1.4 MW. It is run in emergency to meet the essential load when there is failure of power supply from Bhakra. We draw entire supply from Bhakra Complex, where U.T. has a share to the extent of 3.5%. The allotment of power varies from time to time, depending upon the generation of power in Bhakra Complex. Due to the fast development of the city, the gap between the supply available and the actual demand has been widening every year and presently the deficit is to the tune of 5.0 lac units every day.

The Chandigarh Administration has been constantly taking up the matter with the Ministry of Energy for additional allocation of power from Beas Power Project and other Central General Projects but till now no tangible results have emerged and thus, Chandigarh is yet to be allocated power from the Central Generation Projects on firm basis.

(ii) Non-Conventional energy sources

The Union Territory of Chandigarh has not exploited the non-conventional energy sources so far but recently committee has been formed to examine the feasibility of the scheme "Gas/Electricity from Sanitary land fills". The report of the committee is expected within 3 months and constructive steps will be taken for implementation of the schemes.

2. An Assessment of Demand and Supply of Energy In the Context of Urbanisation.

Presently the peak demand of the city has touched 15 MVA and as per recommendations of Task Force Constituted by Govt. of India, Ministry of Energy to examine various aspects of Power Supply and distribution in the Union Territory of Chandigarh, the peak load is likely to reach 91 KVA during 1986-87, 127 MVA by 1989-90 and 205 MVA by the year 1994-95. To meet with this demand, it has been proposed to add Recessing Grid Sub Stations with 119.5 MVA installed capacity during the 7th Plan period by installing 4 Nos. 66 KV Grid Sub-Station at Indl. Area Phase I, Phase II, Sector-12 and Sector-39. So far every requirement is concerned, the Task Force has assessed 458 KV during 1986-87, 643 KV during 1989-90 and 1035 KV of energy requirement by the year 1994-95. The %age of domestic and Industrial consumption with respect to total requirement of the city is 35% and 41% respectively. For supply of Power, Chandigarh depends upon Central Generation Projects but so far Govt. of India, Ministry of Energy have not identified any Power Project with which future (additional) demand of Chandigarh will be met with.

3. Scouting of New Sources of Energy

As stated in part 1 (ii) above that U.T. of Chandigarh have not yet exploited the new sources of energy viz. Solar, Wind, biogas etc. However, a committee has been constituted by Administrator of U.T. Chandigarh to examine the feasibility of the scheme "Gas/Electricity from Sanitary land fills" so as to utilize "Urban Waste". The committee constituted is Planning to visit Delhi to discuss the details in respect of this scheme and the guidelines for the implementation of this scheme has been asked for from Ministry of Energy, New Delhi.

(ii) Augmenting the conventional sources

Presently there is no source of generation in U.T. of Chandigarh and moreover the possibility of generation has not been exploited/Planned in view of the limited know how, manpower and financial resources.

(iii) Energy Conservation measures contemplated

The main source of saving of energy is the street light. For savings of energy, the required lamps should

be efficient with more per watt intensity so that less wattage lamps should provide sufficient lighting and further there should be some arrangement of auto cut off switches with time programming on the basis of the traffic on the roads. The steps are being taken by replacing ordinary lamps with tube fittings.

Item No. 4 ENVIRONMENT

Subject :—Environment Planning on Chandigarh.

I. STATE OF ENVIRONMENT IN THE URBAN CONTEXT

Chandigarh 'The City Beautiful' has been planned on modern planning techniques and offers all basic amenities to its residents. Its 'Pollution free human Environment' has been well recognised and the city was awarded the French Govt. prize in 1972 by the 'Institute of Life' for its quality "Urban Environment".

Since its inception, the planning and development of City is being carried out by 'Capital Project' headed by the Chief Administrator. The city is being developed in accordance with the provisions of well conceived Master Plan. There is inbuilt system for proper Coordination between the various departments and hence there is hardly any problem of environment pollution.

(i) Pollution Control Measures

Only light and service industries which are not of obnoxious nature and do not produce smoke, are allowed to be constructed. No industry is allowed to discharge its untreated effluent into the natural drains.

(ii) Deforestation.

About 3019 hectares of land which is 23% of the total land, is under forests. Most of it lies in the Shivalik hills in the catchment area of Sukhna Lake. The other forests are in the form of strips along Patiali-ki-Rao and Sukhna Choe. These existing forests are being protected strictly. The catchment area of Sukhna Lake is further being protected against soil erosion by plantation and soil conservation measures. The cutting of trees in the urban area is restricted under the Chandigarh Tree Preservation Orders 1954.

(iii) Sanitation.

The city has well planned under ground sewerage and storm water disposal system. The Sewage treatment plant is located in the South of City. The garbage is collected on door to door basis or from garbage collection centres constructed in most of the sectors. The service lanes at the back of houses and undeveloped open spaces which have wild vegetative growth become garbage dumping sites and often pose problems for their proper maintenance.

(iv) Open spaces/greens.

The city has 10 miles green belt of rural zone around it. The lowlying Shivalik Hills in the north have protected forest. Rajindra Park and Golf Course are major regional parks/open spaces. It has 8 K.M.

long central major green Leisure Valley having special gardens and Stadiums. Besides the vertical green, in each sector has well distributed open spaces. These open spaces/greens are being developed and maintained by the Horticulture Wing of the Engineering Department.

(v) Public awareness/participation.

Due to high literacy the people are well aware of the need to keep the city clean. The Administration has put up a number of hoardings to educate the citizens to "keep the City clean". The nominated members on the various Advisory Committees represent people and present their difficulties before the Administration. Professional Institutes & Training Institutes often hold Seminars/workshop on the various Environmental aspects. However, participation in these Seminars remains limited to few high officials and academicians.

(vi) Waste recycling.

A project amounting to Rs. 434.50 lacs covering Augmentation of W/S by Recycling Sullage water for irrigation of open spaces in Chandigarh city has already been submitted to Govt. of India in Sept., 85. The work will be taken in hand after its clearance.

The garbage is dumped in low-lying areas for reclamation of the land. The discharge after primary treatment in the sewage treatment plant is supplied for irrigation of the fields.

(vii) Priority special problems of the Union Territory.

The Major environmental problems of U.T. are :—

- (i) the siltation of the Sukhna Lake which has reduced its water storage capacity by 65%.
- (ii) redevelopment of the four existing villages retained in the sector. These highly congested villages lack basic public liabilities and have insanitary conditions. These are spoiling the environment of adjoining pockets/sectors.
- (iii) Encroachment of Govt. land, rehabilitation of slums/squatters. As per Survey conducted in 1985 there are total of 6712 jhuggis and 1915 homeless persons. The Administration has so far created about 9000 residential sites in Transit Campus/Site and Services Scheme to rehabilitate these squatters. However, the problem appears to be endless.
- (iv) Un organised commercial activity in the form of Rehri walas, vendors and pheri walas.

II. LEGISLATIVE MEASURES FOR ENVIRONMENTAL PLANNING

Chandigarh city has been planned and developed under the provisions of the Capital of Punjab (Development and regulation) Act, 1952, 100% Acquisition of land, Framing of Capital of Punjab (Development and Regulation) Building Bye laws 1952, Adoption of Zonal and development of plans and zoning regula-

tions, architectural control frame controls etc. has created proper environment.

To control and regulate the periphery of the city, the Punjab New Capital (Periphery) Control Act, 1952 was enacted. 10 mile belt around the city was declared and controlled area in which building activity is restricted the uses subservient to agriculture. After reorganisation of the states in 1966, the provisions of the Act have been made applicable in the States of Punjab and Haryana in which the most of the controlled area falls. Chandigarh Inter State Regional Plan prepared by the T.C.P.O. does not have legal backing.

III. SCOPE AND DIMENSIONS ON ENVIRONMENTAL PROTECTION, VIS-A-VIS THE URBANISATION.

As per proposal of the Chandigarh Urban Complex Plan prepared for integrated and coordinated development of three towns viz. Chandigarh, Mohali and Panchkula by the Coordination Committee, the planned population of the 'Complex' will be 12.5 lacs by 2001, out of which Chandigarh will accommodate 7.5 lacs. However, the population projection for the city indicate growth of population to lacs by 2001. As per the recommendations of the 'Regional Plan' for the 'Chandigarh Interstate Region' prepared by the T.C.P.O. Govt. of India, the growth of Chandigarh is to be checked and restricted to 7.5 lacs by 2001 by development of a number of regional towns. Therefore, in order to reduce pressure on the city and protected its environment, regional towns are required to be developed by infusion of new economic activities and infrastructure. Thus protection of environment of Chandigarh is linked with maintaining the basic concepts of planning and development standards contained in the edict of Chandigarh, strict enforcement of 'Periphery Control Act' to check haphazard building activity, around the city, Planning and development of the part of urban Complex falling in the adjoining states as per overall plan proposal and implementation of the recommendation of 'Regional Plan' for Chandigarh Inter State Region.

IV. PROJECT POLICY/PROGRAMME FOR ENVIRONMENTAL PLANNING FOR 2001, 2025.

The city Chandigarh region is proposed to be planned/developed in accordance with recommendation of the Chandigarh Regional Plan. The area north of city is proposed for thick afforestation. It is proposed to develop a 200 acres Botanical Garden in between the Lake and High Court Building.

Due to rapidly changing Socio-economic conditions, building techniques and political conditions no policy/programme can be envisaged for 2025.

Item No. 5(1) EMPLOYMENT.

1. AN APPRAISAL OF EMPLOYMENT SITUATION IN URBAN AREA OF THE STATE.

Chandigarh is a small Union Territory spread over an area of 114 Sq. K.M. comprising the city of

Chandigarh, Manimajra Notified Area Committee and 22 villages. The small rural belt is gradually diminishing further with the acquisition of more land for the expansion of the city. Since Chandigarh was never conceived as an industrial town, no major industry could be set up here. However, a number of village and small industries have come up during the past years.

The Regional Employment Exchange, Union Territory, Chandigarh is the biggest Employment Exchange in whole of the Northern Region including Punjab, Haryana, H.P. and J. & K. This exchange caters to all the establishments both in public and private sector located in the Union Territory of Chandigarh except those belonging to Punjab and Haryana Governments with regard to recruitment of staff. It also renders employment assistance to the residents of Chandigarh (U.T.).

Manpower availability in various sectors

The number of work seekers on the Live Register of Regional Employment Exchange, Union Territory, Chandigarh as on 31-12-1985 was 108523. The break up of job seekers in the Live Register classified by broad occupation/sector is given below :—

Occupational description	No. of work seekers as on 31-12-1985.
1. Professional and Technical Workers.	8987
2. Administrative, Executive & related Workers.	27
3. Clerical and Sales workers.	16875
4. Service Workers.	9427
5. Farmer, Fishermen, Hunters etc.	943
6. Production, Process and related workers.	22360
7. Workers not classified by Occupation.	49904
Total	108523

It would be seen from the above table that more than 46% persons have no technical training or previous work experience and therefore, were not classified by occupation.

Skill characteristics

The unemployment situation in the country is based on data in respect of the job seekers on the live Register of Employment Exchanges and other allied characteristics of job seekers such as educational leave, age and sex details of various aspects of the work seekers available on the Live Register of the Regional Employment Exchange has been given in the following paragraph :—

Educated work seekers.—Educated work seekers (Matriculates and above) form an important segment of the Live Register of Employment Exchanges, Unemployment in the case of educated person is considered to be more acute than in the case of uneducated persons, as most of the educated persons are interested

in white collar jobs. The education wise break up of work seekers as on 31-12-1985 is given below :—

Educational Level	No. of job seekers
1. Below Matric including illiterate.	50772
2. Matriculates.	30462
3. Higher Secondary & Inter	14307
4. Graduates.	
(i) Arts. 8521	12987
(ii) Science 1176	
(iii) Commerce 756	
(iv) Edn. other 2529	
Total	108523

Out of total 108523 work seekers available on the Live Register of Union Territory, Chandigarh, 89649 were male and the remaining 18874 were females. In addition to above, the following special type of work seekers are also available on the Live Register of the Employment Exchange of Union Territory, Chandigarh :—

Category	No. of Special type of work seekers.
Dependents of Disabled Ex-servicemen.	1
Professional & Executive.	3631
D. G. E. (C)/(SS)/(UT)	103
Women	18874
Passed out I. T. I. trainees	6207
Ex-servicemen.	3897
Scheduled Castes.	27339
Scheduled Tribes.	188
Physically Handicapped	425

Status of employment/unemployment

Under the Employment Market Information Programme of National Employment Service, the data on employment is collected from the employers in the public and private sectors to measure continuous changes in the level of employment at the area, state and national level. The data collected under Employment Market Information Programme relate only to the organised sector of the economy which inter-alia covers all establishments in the public sector irrespective of their size and non agricultural establishments in the private sector employing 10 or more persons. However, this programme does not cover the following sectors :—

- (i) Self employment or independent workers.
- (ii) Part time employees.
- (iii) Agriculture and allied operations in the private sector.
- (iv) House hold establishments.
- (v) Non agricultural establishments in private sector employing less than 10 workers.
- (vi) Defence forces.
- (vii) Employment in Indian Mission/Embassies abroad.

The information regarding the number of establishments covered under the Employment Market Information Programme of the Regional Employment Exchange and total employment in them has been given as under :—

Period	No. of establishments covered			Total employment in the establishment.		
	Public	Pvt.	Total	Public	Pvt.	Total
31-3-83	382	342	724	47754	15078	62832
31-3-84	389	352	741	49132	15406	64538
31-3-85	401	360	761	50033	15716	65749
31-12-85	399	362	761	50898	17166	68064

It would be seen from the above table that employment in the public and private sectors has been showing an increasing trend during the past years. The increase in the level of employment is attributed to the expansion of public sector as well as private sector activities in the area during the period.

Status of unemployment

On the basis of data available with the Regional Employment Exchange, Union Territory Chandigarh as many as about 108523 persons are waiting for employment assistance. However, the data available with the Regional Employment Exchange regarding unemployment situation cannot the maximum size of

residential plots to 250 Sq. Yards. In order to check the rise in the price of residential plots it has been decided to dispose of plots less than 10 Marla through allotment, only plots bigger than 10 Marla are to be sold in auction. In the second phase sectors pockets of land facing V-4 roads have been planned for four storeyed housing blocks. These blocks have been allotted to various Govt. Departments, Public/Semi Public Organisations for construction of staff quarters for their employees. Chandigarh Housing Board and Engineering Department of the Administration are the main agencies for the implementation of housing schemes. At present Administration is not contemplating formulation of any housing policy.

2. WHAT ARE THE HOUSING SCHEMES IMPLEMENTED FOR THE URBAN AREAS.

—Annual demand, stock supply of housing,

—details of excess/shortfalls.

The housing schemes being implemented in the city include H.I.G., M.I.G., L.I.G., and E.W.S. Housing for State Govt. employees/Retiring employees, retirees of Punjab and Haryana Govt. and U.T. Administration, Central Govt. employees, U.T. Administration employees, Safai Karamchari, rental housing scheme for U.T. employees. Besides transit sites with developed plots and community facilities, sites and services schemes have been implemented at village Danumajra, Duanas and Karsan. So far Chandigarh Housing Board has constructed about 23000 dwelling units. In addition about 9000 residential sites have been created in transit camps/site and Service Schemes.

As per 1981 the total number of house holds in Chandigarh City was 88802 and number of occupied residential houses was 87306, thus implying a short fall of 1496 houses. Since unauthorised huts and jhuggies were also counted as houses for census purposes, the short falls is on the higher side. The short fall has further increased as the number of dwelling units being constructed has not been keeping pace with the growth of population. It is apprehended that there would be further short fall in the dwelling units. However, the problem has been contained so far.

3. Problems faced by urban housing :

- availability of basic amenities.
- scarcity of land.
- building material.
- skilled labour force.
- institutional.
- finance.

As far as housing programme in Chandigarh is concerned it can not be extended indefinitely due to further fixed parameters. The boundaries of U.T. Chandigarh are defined so there is scarcity of land for the construction of houses. A number of squatter settlements and slums have developed. As per survey conducted in 1985, there are a total of 6712 jhuggies and 1915 homeless persons. The Administration has so far been created about 9000 residential sites in transit camps/site and services schemes to rehabilitate these squatters, but the problem persists.

Regarding availability of building materials skilled labour and institutional financing is concerned, these are available for these projects.

4. What are the measures adopted by the State to meet the requirements.

It is proposed to acquire more land for the expansion of city to meet existing short fall and

future housing needs. The U.T. Administration has allotted about 980 residential plots to 22 Housing Cooperative Societies, which will help in easing the housing shortage. Land has already been allotted to a number of Central Govt. and State Govt. Departments and public/semi public Corporations and institutions for construction of staff quarters for their employees. The construction of these staff quarters would further increase housing stock in the city.

5. Institutional infrastructure for the housing sector.

Various schemes of the Chandigarh Housing Board are financed by HUDCO which is a Mother Financing Institution as far houses are concerned. In addition to this some portion of the finance are given by the U.T. Administration and a few schemes are floated as Self financing Schemes or Partial Self Financing Schemes.

6. Housing Policy perspectives in the context of urbanisation in 2001/2025.

The number of jhuggi dwellers/colonies is increasing day to day. The housing policy would need to be emphasise construction of housing for E.W.S. and reservation of sites for low cost housing etc.

Item No. 10 INDUSTRY

1. Industrial profile of the State

- type of industry.
- size of industry.
- output.
- location whether city specific or suburban specific.

Union Territory, Chandigarh having an area of 114 Sq. Kms. including 24 villages around it, was created on 1st November, 1966 as a result of bifurcation of erstwhile Punjab. At that time U.T. had 133 SSI units. Over the years it has developed into an important commercial Centre and industrial town. There are 2148 SSI units registered as on 30-6-86. Besides, there are 14 large and medium scale units including two public sector undertakings.

Almost all types of items are being manufactured by SSI units in Chandigarh i.e. from earthenware to stainless steel utensils, simple wooden furniture to sophisticated wooden and steel furniture, agricultural implements from space to combine harvester and tractor parts, all types of steel fabrication from grills to heavy steel structures, household necessities like biscuits, vermicelli, soap, detergent, cleansing power, washing machines, electrical switchgears, medicines, chemicals, plastic and leather goods. Most of these units are located in Industrial Area. There are village industries also like leather tanning, shoe making, durrees and khadi weaving, pottery, carpentry and blacksmithy which have come up in villages. About 20% of the units are located in villages and the rest of units are located in U.T. Chandigarh. To promote the industries in villages, Chandigarh Admn. has decided to create Industrial

Nucleus Centres in four villages i.e. Mauli Jagran, Dhanas, Daria and Hallo Majra.

The Annual production of industrial goods in Chandigarh is estimated to about Rs. 69.86 crores providing employment to about 25000 workers. There are about 18 exporting units, Out of these only 7 units exported their products valuing Rs. 1.87 crores during the year 1985-86.

2. Discussion on the industrial location policy in the context of urbanisation with reference to :—

- (i) infrastructure
- (ii) raw material
- (iii) manpower.

Chandigarh Admn. has earmarked Industrial Area in the Master Plan where the industry is to be developed. All types of industries can be set up in this Area. However, the Chandigarh Admn. has approved 29 industries which can be set up in villages. The Chandigarh Admn. has provided developed industrial plots to the entrepreneurs. Some plots had been handed over to Chandigarh Industrial and General Development Corporation Ltd., for the Construction of industrial sheds for further allotment to the entrepreneurs on hire purchase basis, C.I.C.D.C. has constructed and allotted 481 industrial sheds of different sizes so far. As regards the other infrastructure like road/public health and electricity facilities, it is provided to SSI units on priority basis. SSI units which are on the waiting list are availing night load connection facility. In addition to above, the industrial units in Chandigarh are availing concessional rate of CST @ 0.5% as compared to 4% in the adjoining States of Punjab and Haryana.

Apart from above, the Chandigarh Industrial and General Development Corporation is responsible for procuring raw materials in bulk for Supply and distribution to SSI units. Regarding availability of man power, the Chandigarh Admn. has set up a Footwear Training Centre for providing training to weaker section is shoe making trade. So far, 49 persons had been provided training. Apart from these, Entrepreneurship Development Courses, Specialised training courses in various taxes and laws are organised in collaboration with small Industries Service Institute, Ludhiana and Technical Teachers Training Institute, Chandigarh. The other sources of availability of training on man-power are Punjab Engineering College, Central Polytechnical College, I.T.I. and Arts and Crafts Institute apart from other technical courses run in Punjab University.

3. Is the Govt. providing incentives for disposal of industrial in rural area :—

- Physical
- financial
- Infrastructure
- manpower.

The Chandigarh Admn. has approved only 29 industries which can be set up in villages. Khadi and village Industries Board is providing financial assistance to these units on the pattern approved by the Khadi and village Industries Commission.

4. Problems faced by industrialisation in the State.

For the promotion of industry, the basic requirement is of availability of land. So far as the availability of road, public health are concerned, these are available in U.T. Chandigarh. Though there is shortage of electricity but SSI units can avail of the night load connection facility. But more than that the problems in U.T., Chandigarh is that of availability of land. There is an acute shortage of land in U.T. Chandigarh. This problem is due to the small area, ear-marked in the Master Plan for the development of industry keeping in view the fact that the Chandigarh is not to be developed as an industrial town. In spite of acute shortage of space, this office had been achieving the targets fixed for the number of SSI units to be registered. This office has registered 201 and 211 SSI units during the year 1984-85 and 1985-86 respectively.

5. Industrial growth pattern for 2001-2025 and suggested industrialisation for meeting the urban development :—

- Scope and content of setting up ancillary and small scale industries.
- employment opportunity for urban population.
- Has the State Govt. acute the area for future industrialisation.
- Industrial workers housing.

Union Territory, Chandigarh has a small area and it has already been developed. However, the main industries are in urban area of Chandigarh and as such the main employment opportunities are for the urban population. At the same time there are employment opportunities for the rural population as well because the villages of U.T., Chandigarh are not distantly located and can easily commute daily.

The Chandigarh Admn. had allotted 339 industrial plots and 481 industrial sheds to new entrepreneurs for the setting up of new industrial ventures and to the existing units for the expansion of their industries as well. Chandigarh Industrial and General Development Corporation Ltd., has already sent the proposal to Chandigarh Admn. for the allotment of more land for the construction of industrial sheds and further allotment to the entrepreneurs.

The Chandigarh Admn. has approved 29 industries which can be set up in the villages. There are 14 large and medium scale industrial units in U.T. Chandigarh apart from 3 big tractor mfg. units i.e. H.M.T., Eicher and Punjab Tractors around Chandigarh i.e. Haryana, H.P. and Punjab, respectively. The majority of SSI units are manufacturing tractor parts which they are supplying to these units. The large and medium scale units of Chandigarh are also feeding to a number of SSI units however, no official ancillary status has been granted by these large and medium scale units to their vendor units. The Deptt. has, however, taken up this matter with the large and medium scale units to grant them official ancillary status.

Item No. 11 *REVENUE AND LAND RECORD*

1. *State Ownership of urban land*

—Municipal.

—State (nazul, non-nazul)

—Area of land under illegal occupation.

There is no Municipal Committee, in U.T. Chandigarh. There is only one Notified Area Committee, Manimajra, U.T. Chandigarh and no razul land non-razul land of the said committee to the question of illegal occupation does not arise.

2. *Maintenance of land records.*

—Land classifications—open areas, open green.

There are only 22 villages within the area of 17358 acres. Out of which 7441 acres of land has been acquired for the Capital Project leaving behind 9917 acres. The more area is being acquired day by day for the development of Capital Project. There are very small right holders in the villages of U.T. Chandigarh. There are only 10 patwari circles having very small area. The land record including maps is up-to-date in U.T. Chandigarh. This is also periodically up dated in accordance with the Punjab Land Revenue Act and instructions issued vide Punjab Land Manual/Punjab Land Administration Manual. There are only 10 patwaris and one kanungo and all are well trained.

3. *Land titles and registrations and transfers.*

The land titles, registration and transfer are being decided by way of mutations.

9. *What is the system for checking increased value of the land.*

The increased value of the land is being checked by way of 5 years average of scale of land.

Item No. 12 *SOCIAL WELFARE*

Chandigarh Administration is running some Institutions under Social Welfare. These are Nari Niketan—protective home for destitute women. This Institution has also been notified as a Certified Home under the Suppression of Immoral Traffic Act, 1956, Home for the Old and Destitute which admits old and Destitute people irrespective of caste or creed, Bal Niketan—an orphanage which is being run by Bal Niketan Society, Chandigarh but the building has been provided by the Chandigarh Administration and 90% of the cost of the inmates is also being borne by the Administration. Further more under the scheme of providing Harijan Dharamshalas in the Union Territory in a phased programme six such buildings have already been completed and handed over to local community for use as multi-purpose activity centre. Out of these one is in Chandigarh City, another in Manimajra Town and the rest in the colonies and villages. Though named as Harijan Dharamshalas, the buildings are opened to use by all communities and are usually located in the areas inhabited by urban/rural poor. Chandigarh Administration has extended financial aid to the Rehabilitation

Centre to handicapped children started/run by the Indian Council for Child Welfare, U.T., Branch. Besides financial support, land has been allotted to this Institution at a concessional rate.

As indicated above Chandigarh Administration is extending financial support to all the above Institutions. In fact, Nari Niketan and Home for Old & Destitute People are Govt. Institutions run by the Administration. Rehabilitation Centre for handicapped children is being run through a Voluntary agency i.e. Indian Council for Child Welfare, U.T., Branch, Chandigarh and will cater to the needs of handicapped children in this part of the country, rather it is an Institution of its own kind in this area.

So far Chandigarh Administration has not faced any constraint in the implementation of welfare programmes. There has been sufficient budgetary provisions under this head.

Chandigarh being most modern city, has been attracting lot of tourists. The urban area is also prone to menace of beggars. Chandigarh Administration has got the Haryana Anti Beggary Act of 1971 invoked to tackle this social problem. A Home for the Beggars which will be a certified Institution under this Act, has also been planned.

Item No. 13 *TRANSPORT*

1. Discussion of available means of transport facilities in urban areas of the state.

—inter-city, intra-city.

—manual, mechanical, electrical.

Chandigarh Transport Undertaking is operating 25% of its fleet on inter-state operation and 75% of the fleet on the intracity services providing transport facilities to meet the demand of the travelling public.

Only the mechanical transport system is available with the C.T.U.

2. Situation of the city transport system.

—infrastructural facility (roads, rails, ports).

—financial (allocations from general budgets).

—means of transport (type of vehicles, no. of vehicles, surface transport, underground transport, waterways).

Chandigarh is such an Urban Estate in which infrastructural transport facilities through roads only are provided. Moreover, Chandigarh Transport Undertaking is a purely Government Undertaking being financed by the Chandigarh Admn. C.T.U. provides surface transport only and is having a fleet of 287 buses (all single dockers) running in the City and inter-states routes on reciprocal basis of mileage.

3. Present transport requirements, gaps in supply in the urban context. Physical and financial constraints.

The Planning Commission has approved to add 100 new buses under the augmentation programme of this Undertaking during the 7th Five Years Plan 1985-90.

It is, however, informed that 20 buses have already been added during the year 1985-86 raising the fleet strength of C.T.U. buses to 287 from 267.

The physical and financial constraints for the year 1985-86, is, however, given hereunder :—

The average fleet of C.T.U. for the year 1985-86 was 280 vehicles that had covered an effective mileage of 218.06 lac Kms. with the staff strength of 1778 employees. The C.T.U. had earned a revenue of Rs. 746.82 lacs and had incurred an expenditure of 872.20 lac.

4. Transport Scenario for the urbanisation trends in 2001, 2025 with reference to policies to meet the future demand.

Transport Scenario of C.T.U. for the urbanisation trends in the year 2001 and 2025 is, however, given in the enclosed statement.

Item No. 14 *TOURISM*.

Chandigarh, being the most modern and well planned city, has already established a fairly good reputation in the Tourism sector. A visit to Chandigarh is favoured by the tourists not only because of its location but also because of its unique modern architecture and inherent tourist attractions. Chandigarh also lies directly on the route to Simla and Chail, the two important places of tourist interest of Himachal Pradesh. In the case of Punjab also, Chandigarh occupies a central place in so far as the people wishing to go to Ropar, Anandpur Sahib, Nangal and Bhakra area concerned. It is because of this reason that Chandigarh, perhaps, occupies an important place in the proposed Travel Circuits for Punjab, Delhi and Himachal Pradesh, Chandigarh is credited with having many tourist attractions including well laid Rose Garden, Sukhna Lake, and Game Sanctuary, Deer Park, National Gallery of Portraits, Museum and Art Gallery, Bougainvillea Garden and Water features etc. Of all these tourist spots, Nek Chand's Rock Garden has deservedly become the major tourist attraction rivalling Corbusier's monumental Secretariat, Assembly Chamber and High Court. More than half a million people from all over India and abroad visit the Rock Garden every year.

The following facilities are being extended to the tourists by the Chandigarh Tourism :—

(i) *Tourist Information* : The Tourist Reception Office, located at the Main Bus Terminus, Sector-17, assists the incoming tourists, both from home and abroad, in providing information regarding accommodation, transport and sight-seeing facilities.

(ii) *Transport Facilities* : Easy accessibility to the various attractions in and around Chandigarh is an important pre-requisite to the tourist attraction. The Administration has already arranged a Delux Coach, an Air-conditioned Toyota Car, a Matador and a diesel operated Ambassador car. Conducted Tours are being arranged.

(iii) *Accommodation* : A good range of accommodation is being provided in Chandigarh to cater the needs of the tourists and visitors, both home and abroad, by Govt. run and private agencies. The Govt. run guest houses provide accommodation at the rates which suits the pockets of the tourists including low budget tourists. The Govt. run accommodation agencies include U.T. Guest House (27 A.C. Suits), U.T. Guest House portion of Panchayat Bhavan (9 double bed rooms), Hotel Chandigarh Mountview (33 A.C. Suits) Panchat Bhavan (270 beds), Chandigarh Yatri Niwas (48 double bed rooms) and P.W.D. Rest House (8 rooms).

(iv) *Other Tourist facilities available in the city.*

Chandigarh is credited with having the facilities required by the incoming tourists such as Banking Facilities, Foreign Currency Exchange Facilities, Post and Telegraphs Facilities, Air Lines with the many cities such as Delhi, Jammu, Leh etc. Frequent Road and Railways Facilities etc.

Keeping in view the keen interest which a section of foreign tourists take in the game of Golf, arrangements are being finalised for providing them this necessary facility on payment basis at nominal green fees and hire charges for the playing equipment. Besides, boating and other water sports, swimming facilities are available in the city.

2. Since Chandigarh figures prominently in the Travel Circuits, a good number of domestic and foreign tourists are received in the city every year. There is substantial scope for providing better tourist facilities to increase the tourist traffic in Chandigarh. This can be done by two proggged drive i.e. :—

- (a) by providing more tourist attractions and improving the existing attractions.
- (b) by providing better transport facilities and hotel accommodation to make the tourists visit to Chandigarh as convenient and comfortable as possible.

To enhance the attractiveness of Rock Garden, the major tourist attractions in Chandigarh, Static and dynamic lighting backed by sound programming are being provided.

One more Air-conditioned bus is being added to the existing fleet of tourist transport facility.

Keeping in view the requirement of low budget tourists a Janata Tourist Hotel of 588 beds is being constructed. The work on the project has since been started.

Private Transports and Taxi Operators are also being encouraged by giving them suitable initiatives.

Chandigarh Administration has also recognised the necessary of involving private sector in providing the necessary infrastructure for the promotion of tourism. In the planning of the various sectors suitable sites are being earmarked for setting up hotels.

3. With regard to the providing of the tourist facilities in Chandigarh, no problem is being faced by the Tourism sector as such.

4. With recognition of Tourism sector as an Industry, by the Govt. of India, it is hoped that the Tourism will flourish considerably and will be able to provide in the coming years all the modern facilities to the tourists at reasonable rates which will be resulted into the increase in the tourist arrivals. Also with the increase of arrivals of the foreign tourists it shall earn more foreign currency and goodwill. To make the visits of tourists convenient and comfortable, tourist facilities like transport and accommodation will have to be increased on the basis of year to year assessment of tourist arrivals. More facilities may be planned for the tourists with the changing needs.

Item No. 15. URBAN DEVELOPMENT TOWN & COUNTRY PLANNING

I. GENERAL PERCEPTION OF URBANISATION IN THE STATE

Chandigarh is a small Union Territory having a total area of 114 Sq. Km. (28170 Acres approximately). It lies on 76° 48 minutes longitude and 30° 50 minutes latitude. Total urban area comprising of city of Chandigarh (including four unacquired village abadies falling in the residential sectors) Industrial Area, N.A.C. Manimajra Transit Camps, is 16617 acres which is about 59% of the total area. The rural area of 11553 acres consists of land in the revenue estates of 25 villages, out of which 18 are inhabited and 7 are uninhabited. The total population of the Union Territory as per 1981 census was 451610 persons.

The Planning and development of Chandigarh was begin in the year 1953 under the New Capital of Punjab (Development and Regulation) Act, 1952. As per the Master Plan of the City prepared by Le Corbusier the city has planned for a population of 5 lacs to be developed in two phases, 1.5 lac in Phase I consisting of 1 to 30 sectors and 3.5 lacs in Phase II consisting of 31 to 47 sectors. In order to control the haphazard growth around the city, 10 mile belt around the city was declared as 'controlled area' under the Capital of Punjab (Periphery) Control Act, 1952.

With the reorganisation of states in 1966, Chandigarh was declared as U.T. and simultaneously the seat of capital of the States of Punjab and Haryana. Due to its new role, the city began to grow rapidly. The states of Punjab and Haryana set up new townships of Mohali and Panchkula at the out skirts of the city. These townships were dependant on Chandigarh city for various facilities putting a great pressure on the infrastructure of the city. In an effort to channelise the growth and develop the city and the two townships and adjoining area in a planned and integrated manner, a Coordination Committee consisting of representatives from the Govt. of India, States of Punjab and Haryana and Chandigarh U.T. was set up by the Govt. of India. The Chandigarh Urban Complex Plan prepared by the Working Group No. II constituted by the Committee contains proposals for the integrated development of Chandigarh, Manimajra, Mohali and Panchkula etc. As per the proposals the 'complex' will accommodate 12.5 lacs of population by 2001 out of which population in Chandigarh would be 7.5 lacs.

As per the decisions of the Coordination Committee, TCPO Ministry of Urban Development, Govt. of India, has prepared a 'Regional Plan' for the Inter State Chandigarh Region. The major recommendations of the Regional Plan relate to the development of a number of regional towns for balanced growth of the region for checking further growth and pressure on Chandigarh.

Urban population of Chandigarh was 99262 in 1961, 232940 in 1971 and 422841 in 1981 showing an increase of 134.67% in the decade 1967-71 and 81.6% in the decade 1971-81. The present (1986) population of Chandigarh is estimated to be 6.00 lacs. The density of population in Chandigarh Union Territory is 5263 persons per Sq. Km. which is amongst highest in the country.

As per population projections the city is likely to achieve a population of 11.5 lacs by 2001, whereas the planned population for the city is 7.5 lacs. If the growth of Chandigarh is not checked by implementing the recommendations of the Regional Plan by development of Regional towns the city is likely to expand beyond the urbanisable limits identified in the Chandigarh Urban Complex Plan.

The future planned growth and development of the City is linked with the implementation of the proposals of Chandigarh Urban Complex Plan, a strict control on the haphazard building activity in the periphery area, under the Provisions of the Periphery Control Act and implementation of the recommendations of the Regional Plan of the Chandigarh Inter State regional prepared by the T.C.P.O.

II. THE AGENCIES WORKING FOR URBANISATION IN THE STATE.

The planning and development of Chandigarh is being done under the provisions of Capital of Punjab (Development and Regulation) Act, 1952. The Capital project Organisation is responsible for the planning and development of the city. The Chief Administrator is the head of the Organisation and is responsible for the issue of directions for proper planning or development of any site or area. The department of Architecture is responsible for planning of area and designing of buildings and the Deptt. of Engineering executes development works. The Estate Officer is custodian of land and responsible for enforcement of the building bye laws.

The agencies for the development of the city are :—

(i) Department of Architecture :—

The Department of Architecture is headed by the Chief Architect. It has two wings viz. Architecture and Town Planning. Senior Town Planner is head of the Town Planning Wing. The main job of the wing is preparation of the layout plans and zoning plans. The Architecture Wing prepares Architectural Design of the buildings and Architectural/Frame Control Sheets etc.

(ii) *Department of Engineering :*

The Department has four wings viz. Planning, Construction, Electricity and Public Health. The Department carries out the development works including construction of buildings, land scaping, roads, provision of electricity and Public Health Services in accordance with the plans prepared by the Deptt. of Architecture.

(iii) *Chandigarh Housing Board :*

Chandigarh Housing Board was set up in the year 1976. The Board has taken up a number of schemes for construction of housing with the assistance from the HUDCO. The land for the housing is allotted by the Chandigarh Administration. Upto now the Board has constructed about 23000 dwelling units.

(iv) *Central Public Works Department :*

A number of sites have been allotted to the various departments of Govt. of India for the construction of offices and housing for the staff. The designing and construction of the same is done by the C.P.W.D.

(v) *Chandigarh Industrial Development General Corporation :*

C.I.D.G.C. has constructed a number of industrial sheds and allotted the same.

(vi) *Notified Area Committee Manimajra :*

N.A.C. Manimajra is responsible for the development works in its area. It usually gets the same done from the department of Architecture and Engineering of the Chandigarh Administration.

(vii) *Other agencies :*

Engineering Departments of State Govts., Defence Services, Paramilitary Organisations, Corporations, Institutions which have been allotted land for their offices and housing for the staff in Chandigarh construct their buildings accordance with the plans approved by the Administration.

III. WHETHER ON-GOING PROGRAMME FIT IN WITH THE STATES PERCEPTION OF URBANISATION.

The Development of City is being carried out by 100% acquisition of land. All the schemes of the various departments for the development of the city are prepared in accordance with the proposals of the Master Plan. The layout plans and design of buildings are prepared by the Department of Architecture and executed by the Department of Engineering on behalf of the client Department. Therefore, all the on-going programme fit in with the perception of urbanisation.

IV. PROBLEMS OF METROPOLITAN CITIES, SMALL AND MEDIUM TOWNS AND GROWTH CENTRES WITH SPECIAL FOCUS ON NEW TOWNS (TOWNS WHICH HAVE BEEN DESIGNATED AS URBAN TOWNS IN 1981 CENSUS).

As per 1981 Census, there are four towns in Chandigarh Union Territory. Apart from 'City of Chandigarh' and Notified Area Committee Manimajra, the

unacquired village abadies of Attawa and Burail, falling in Sector-42 and Sector-45 respectively, have been designated as towns. However, for the purpose of urban development of Chandigarh City, these two village Abadis cannot be treated as separate towns.

The four unacquired village Abadis viz. Attawa, Burail, Butera and Badheri are ugly sores on the 'City Beautiful' as these villages have insanitary conditions and shabby structures. Since no permission is required for construction of new houses in the abadi area, a number of new buildings are being constructed leading to highly congested slum like development, within newly developed sectors. A number of unauthorised structures in the form of khokhas/jhuggis have come up in the vacant land around the village abadis. Since these abadis fall within the residential sectors, they disturb the planning and circulation of the sectors.

V. ROLE OF LOCAL BODIES IN URBANISATION.

—Categories and number.

—to achieve.

—special problem.

There is only one local body, i.e. Notified Area Committee for Manimajra Town. It is responsible for municipal functions, maintenance, planning and development of areas under its jurisdiction. The area of the Manimajra Notified Area Committee falls in the 'controlled area' declared under the Punjab New Capital (Periphery) Control Act, 1952. Whereas the abadi area is exempted from the provisions of the Act, the act is applicable to the remaining area. A person intending to erect a building outside the abadi area has to seek permission of the competent authority viz. Deputy Commissioner, for the periphery Act and the Notified Area Committee for the Punjab Municipal Act 1911.

The Master Plan proposals of Manimajra are in conflict with the proposals of the development plan of the controlled area prepared under the periphery Act, 1952. Almost whole of the controlled area outside 'abadi' limits has been reserved for agriculture use.

Since the area around Manimajra is very potential for urban development, a lot of unauthorised building activity is taking place. A number of Jhuggi Colonies have come-up on the Government lands.

VI. THE PROBLEMS THROWN UP BY THE MULTIPLICITY OF AGENCIES IN URBAN AREAS AND SOLUTIONS THEREOF.

All the development works in Chandigarh are carried out by the Engineering Department of the Capital Project in accordance with the development Plans prepared by the Deptt. of Architecture. However, a few Central Government Departments like Deptt. of Telephones also operate. Normally they work in coordination with the Capital Project, authorities and there is hardly any problem of the multiplicity of agencies in the urban area. However recently co-axial cables for telecommunications laid by the P & T Deptt. have

created problems for laying of underground high tension electric cables by the Electricity Department.

VII. STATES OF PREPARATION OF MASTER PLAN FOR THE CITIES AND TOWNS

The Planning and development of Chandigarh is carried out under the provisions of the Capital of Punjab (Development Regulation) Act, 1952. The act does not provide for preparation of Master Plan for the City. However, for the proper planning of the City a guide Master Plan has been prepared. This Master Plan does not have a legal sanctity. However, zoning plans containing instructions for the purpose of proper planning or development of Chandigarh in respect of any site or area has legal sanctity. The Master Plan acts as a guide plan for determining major land uses and preparing detailed layout plans of sectors. Whole of the land is acquired and developed by the Administration.

The 'proposed Land Use Plan' or 'Master Plan' for Manimajra Town prepared by the Deptt. of Architecture also does not have any legal sanctity. Various developments Schemes of Manimajra Town are taken up in accordance with the Master Plan proposals.

VIII. IMPACT OF URBAN CEILING ACT OF URBANISATION.

Chandigarh is 'D' category of Urban Agglomeration where restrictions regarding construction of building with dwelling unit is 500 sq. Mtrs. of plinth area and permissible area of vacant land to be possessed by a person is 2000 Sq. Mtrs.

Unlike other cities Chandigarh is a planned town where all land within the Master Plan area is acquired by the Capital Project authorities, developed and sold according to the pre-conceived layout plan. Land outside the Master Plan area in the urban agglomeration of Chandigarh, excepting the village abadi areas, is all agricultural. Within the Master Plan limits all land is divided into a number of sectors and also into various

use zones e.g. Industrial, Commercial, residential and educational etc. and as such further sub-division of the Chandigarh area into different zones was not considered necessary.

The vacant land is being assessed by the competent authority on the basis of statements of excess vacant land filed by the persons. However, not much land is likely to become available as Chandigarh is a controlled and planned city. The cases of exemption of land under section 20 for Industrial sites are being dealt as per latest instructions. In case of exemption under Section-20 for residential sites it is being kept in view that the rules do not permit fragmentation of sites. Similarly the cases pertaining to exemption of vacant land of educational and cultural Institutions are being dealt keeping in view the provisions of Section-19.

As a policy matter it has been decided that maximum size of residential plot shall not exceed 250 sq. yards. The size of the industrial plot is also being kept within the limits imposed by the Urban Ceiling Act. In the case of land in the periphery of the town, no objection certificate from the competent authority is obtained before transfer of land or sanction of building application.

IX. URBANISATION PROSPECTS IN THE CONTEXT OF 2001, 2025.

The 'Chandigarh Urban Complex Plan' contains the proposals for the development of city up to the year 2001. The Regional Plan for 'Chandigarh inter-state region' also contains recommendations for the development of city and region upto the year 2001. Due to vital role played by the Chandigarh in the region, the present trend of population growth of Chandigarh is likely to continue. Unless adequate efforts are made to channelise the flow of population into small urban Centres, the major proportion of the urban population is likely to be concentrated in Chandigarh. However, due to rapidly changing socio-economic conditions, building techniques and political conditions, the urbanisation prospect in the context of 2025 can not be ascertained.

DADRA & NAGAR HAVELI

A NOTE ON URBANISATION OF SILVASSA UNION TERRITORY

Introduction

The Union Territory of Dadra and Nagar Haveli is on Western part of India. It is about 18 kilometers from Vapi Railway Station. It has an area of 491 kilometres. It comprises of two enclaves viz. Dadra with 3 villages and Nagar Haveli with 69 villages and one town i.e. Silvassa. The Territory is surrounded on West, North and East by Valsad District of Gujarat and in the South and South East by Thana and Nasik Districts of Maharashtra. It has a hilly terrain specially towards the North East and East where it is surrounded by Western Ghats. The terrain is intersected by river Daman Ganga and its three tributaries.

Demography

Dadra and Nagar Haveli is predominantly rural comprising of 71 villages and only one town of Silvassa. Silvassa, the capital of the Union Territory, for the first time in 1981 Census, has been classified as a town. Local Administration of Silvassa is carried out by village Panchayat. There is no Municipality for the town. Total population of Dadra and Nagar Haveli, as per 1981 Census is 1,03,676 out of this 96,762 persons are living in rural areas and only 6,914 persons are living in Urban area i.e. Silvassa town. The town of Silvassa has been classified as class V town. The population of Silvassa accounts for 6.6% of the total population of Dadra and Nagar Haveli. The area of the town is 6.65 sq. kilometres. The density of population is 1,040 persons/sq. kilometres. The total population of Silvassa in 1971 was 4495 and as per the 1981 Census it has increased to 6914. Therefore the decadal growth of population is 2419 persons i.e. 53.81%. This rate of growth is likely to continue in the foreseeable future due to the growth oriented policy of the Administration.

Structure

The structure of the town is such that the industries area is located in the periphery of the town. Government offices, commercial areas, bus terminal and other facilities, utilities and services are located in the Central part of the town. These are well connected with road net work system. In the Central area of the town, nice garden is developed. The

roads are dotted with trees. The land uses are compatible. The town is thus having a good structure.

Employment

Out of 2,473 workers of the town 748 workers i.e. 30.24% are working in the agriculture sector as cultivators and agriculture labourers, remaining 69.76% workers are working as factory workers, trade business, transport, Government servants, teachers etc. This shows the Urban characteristic of the town.

Housing

There are 1,305 house holds and 1,283 houses as per the 1981 Census. Therefore the shortage in housing is 22. Many of these houses are kutchha and consists of one room tenement. Therefore considering qualitative aspect of housing, it can be said that the housing deficiency is more. This is due to the low economic standard and lower income of the people.

Transportation

The size of the town is small and most of the activities areas are located in the Central part of the town except the industries which is located at the outskirts of the existing town. Therefore the trip length to work places etc. is short. The inter regional and intra regional traffic is served by buses of Gujarat State Transport. These buses also cater partly the transportation requirement within the town. The existing road net work is adequate for the traffic volume. However qualitative improvement of road net work is necessary.

Water Supply

At present the water supply is almost adequate. Tap water is available for the town area. However there is no treatment/filtration plant. There is need to supply treatment water to the town population. Also there is need for augmentation of water considering the future requirement.

Sewage disposal

At present the sewage is disposed off in open drains and for night soil disposal, septic tanks are provided.

However this is leading to mosquito breeding and unhygienic conditions. Therefore there is need for a sewerage and drainage system for the town for proper disposal of the waste.

Provision of other Infrastructures

There is one High School, about 10 Primary Schools, 1 I.T.I., 1 Hospital, 1 Stadium, 2 Cinema Halls, 1 Town Hall and 1 Public Library in the town. A swimming pool is under construction. Thus the medical, educational, recreational facilities etc. are adequate considering the size of the population.

Physical development

At present the development is permitted in the town considering the land use characteristic of the surrounding area, accessibility, site conditions and as per the existing norms. The industrial area is segregated from other land uses and polluting industries are not permitted. Industrial Estates and industries in the interior areas of this territory are encouraged to reduce the undue pressure on the land in the town as well as to reduce the intra-regional imbalances in this territory.

Aesthetics

Considering the local environment, buildings of small heights of maximum ground and two upper floors are permitted with generally slopy roof style and due care is also taken regarding the building line. People are also advised to plant trees, shrubs in the open space and margin area of the plot.

Organisation set up

A Town Planning Cell is existing and recently a regular Town Planner has been appointed to look after the planning of this territory/town. He will prepare plans and also suggest suitable measures for its implementation. This will ensure planned development of the town.

As mentioned above, there is a need for augmentation of water supply, provision of filtered water, sewerage system, drainage system, provision for housing and better quality roads.

In nut-shell there is not much urbanisation in this territory. Neither there are any major problems of Urbanisation. Urbanisation is well under control and suitable steps are taken/being taken to ensure planned development and healthy Urbanisation in this territory and particularly in Silvassa town.

PONDICHERRY

A NOTE ON URBANISATION IN U.T. OF FINANCE DEPARTMENT

NOTE

The Union Territory of Pondicherry consists of 4 discontinuous areas which are interspersed in three different states i.e. Pondicherry and Karaikal in Tamil Nadu, Yanam in Andhra Pradesh and Mahe in Kerala. While the former three lie on the East Coast, the latter lie on the West Coast of India. The total area of the Union Territory is 480 sq. km. The details of area of each region respective total rural and urban population and their percentages are in the Annexure I, A and B enclosed.

2. The Pondicherry region located on the Coromandal Coast holds nearly 79.55% of urban population of the Union Territory. It is limited on the east by the Bay of Bengal and on the other 3 sides by the South Arcot District of Tamil Nadu State. The region is divided into one Municipality and 6 communes. This is not a contiguous area but it is interspersed with enclaves of South Arcot District. It again presents a picture of scattered parts enclaved within Cuddalore, Villupuram and Tindivanam Taluks of the South Arcot District.

3. The main urban settlement i.e. Pondicherry city accounts for 56.57% of the population in 1981 in the Pondicherry region. The projected urban population by 1991 according to the report of the Expert Committee on Population Projections, Office of the Registrar General, would be nearly 6.00 lakhs and the population that will remain in Pondicherry city is estimated at 3.50 lakhs. The growth of the city is likely to follow a high rate in the coming decades. The total settlement of Pondicherry is a small area within the State of Tamil Nadu and as such, to tackle the problems of functional interaction and dependency, drainage, water resources, soil erosion etc. an integrated planning approach may have to be adopted in collaboration with the Tamil Nadu Government for the balanced development of the region.

4. The rural population of the Pondicherry region accounts to nearly 1.93 lakhs which is 43.43% of the regional population. The density of the population in the Pondicherry region is very high which stands at 1259 persons/sq. km.

5. The occupational structure of the Pondicherry region indicate a fairly diversified economy where secondary and tertiary sectors are well developed and non-agricultural activities are almost balanced with

the primary sector activities. In the primary sector again, agricultural labourers are much more predominant than the cultivators in number which show the degree of saturation in the primary sector of the economy. Fishing activity is quite important and a large number of workers are engaged in this activity.

6. Agricultural scene of the Pondicherry region is characterised by a very intensive use of the available land for agriculture. Only about 26% of the land is not available for cultivation and the rest of the land is used for mostly cultivation and tree crops and pastures in small areas. The net area sown covers nearly 65% of the total land area of which again about 60% is sown more than once. Irrigation is highly developed in the region and about 80% of the cropped area is irrigated. The main sources of irrigation are canals, tanks and wells.

7. There are about 268 villages of various sizes in Pondicherry region. Many of these villages have good social and economic infrastructure facilities as water supply, electricity, metalled roads, schools and medical facilities etc. Some of these villages, particularly the commune headquarters, function as services villages to the surrounding rural areas.

8. The catchment area for daily needs of the Pondicherry city for milk, dairy products, vegetables, etc. are in the rural areas in Pondicherry as well as Valavanur and Villupuram and Cuddalore in the Tamil Nadu State.

9. The diversified economy of the Pondicherry region including the rural area and the development of industrial activities at several locations away from the city along with availability of infrastructural facilities helped to develop several growth points in the rural Pondicherry which in turn has close linkage with the Pondicherry city. Thus functional hierarchy of the settlement system is observed within the city region of Pondicherry. All these growth points are mainly the headquarters of the Commune Panchayats.

Problems

10. The problems of the urban settlement of the Pondicherry are not much different from those observed in other urban settlements especially in the south.

11. The Pondicherry region and the urban areas suffer from several maladies which are accumulating over the years due to rapid growth of population and the consequent to the development of Pondicherry as the administrative headquarters and a very specialised urban settlement catering to the specialised needs of health, learning and spiritual knowledge.

12. The urban Pondicherry's predominant functions are service and commerce, therefore, it is functionally and economically imbalanced. Large scale unemployment and under employment in the rural sector due to very adverse land-man ratio are resulting in over-crowding in both the urban and rural areas.

13. Deterioration of the physical environment and lack of basic urban infrastructure is another serious problem on the peripheral areas. This has resulted from over crowding, unplanned growth and the pattern of development of the town along the main thoroughfares giving high rise to urban sprawls.

14. The organised space for office accommodation as well as industries are very much insufficient. The office spaces are mainly located indiscriminate in scattered locations mainly in private buildings not conforming to planning standards and proper facilities.

15. The commercial development has become ubiquitous resulting in mixed land uses and deterioration of environment. Strip type commercial development is the predominant pattern resulting in traffic problems, lack of parking space and insufficient space for pedestrians and circulation.

16. The spaces for parks, playgrounds and organised open space are insufficient and not properly distributed. While the eastern part of the city is slightly better served in this regard, the remaining part suffers from lack of these facilities.

17. Housing problem has assumed a serious proportion due to the inadequate increase in the housing stock although the population and the housing demand is growing very fast.

18. More than 80% of the houses are above 30 years old and more than 70% are in structurally bad and poor condition while huts constitute 23% of the total dwelling units. Therefore, inadequate and sub-standard housing is a common problem.

18. The density pattern of the city reveals high density generally on the western parts of the Boulevard.

19. Although 36% of the total developed area is under roads and circulation which is on the higher side, Pondicherry urban area suffers from a number of problems regarding traffic and transportation. The Boulevard town which had its genesis during the 17th century is mainly designed on a grid iron pattern at a pedestrian scale with high percentage of roads without any functional hierarchy and hence has failed to perform effectively in the present motor car age. Added to this, the mixed traffic and the lack of parking spaces have further reduced the effective capacity of the roads and proper functioning of it.

20. The main inter city traffic and transportation modes are buses, trucks and lorries, on roads. A metre gauge railway line branches off from Villupuram, which is mainly utilised for transporting goods whereas the passenger traffic is carried by buses.

21. Pondicherry is a minor port which is used to handle about 50,000 tonnes of cargo per annum before 1950-51 mainly of general consumer goods both for import and export. The traffic has reduced drastically since then. If the port is developed with the development of pier and various related port facilities and proper linkages are established with the hinterland the traffic through this port can pick up and a comprehensive project in this regard is in the anvil, which will be implemented shortly.

Proposals for Development

22. A Comprehensive "Pondicherry Town and Country Planning Act, 1969" for planning the physical development and use of urban and rural areas in the Union Territory of Pondicherry has been introduced in the Union Territory during 1971. Under the provisions of the Act, planning authorities have been created for Pondicherry urban area, Karaikal urban area, Mahe urban area and the constitution of the Yanam Planning Authority is in the anvil. The planning authorities prepare the development plans for the development of the relevant urban areas for guiding the development of the settlement in planned lines. The master plan for Pondicherry has been made statutory and the same is under implementation. Preparation of a city regional plan for Pondicherry region is in the anvil taking the whole of Pondicherry region and considering the balanced development of it in relation to the other urban settlements in Tamil Nadu State. The main emphasis of physical development strategy of the Union Territory is towards "Development with conservation".

23. The interaction of the peripheral urban settlements in Tamil Nadu towards the Pondicherry is so high, because of the high level of the specialised facilities available. As a result of many of the facilities in Pondicherry are mainly enjoyed by the people of Tamil Nadu whereas the people of the Union Territory has not much interaction with the peripheral urban settlements in Tamil Nadu.

24. Another major development which is taking place around the Pondicherry urban area is the development of Auroville about 10 km. north of the Pondicherry. The township will come up in an area of 40 sq. km. mostly in Tamil Nadu State but partly in Pondicherry territory. It is designed for 50,000 population. The town will be mainly divided into four sectors viz., residential, industrial, cultural and international zones. At present the development of the township is at a snail's pace, but it is an experiment in human co-habitation. The development of such magnitude; bound to have considerable urbanising influence on the Pondicherry city and in its neighbourhood, even if the town becomes more or less self-contained. The development of Auroville will generate additional pressure on the Pondicherry city for services and urban amenities.

25. From above in the interest of planned and balanced growth of the city regions and settlements in it, irrespective of the administrative boundaries, the following need immediate attention.

- (a) There is a need to formulate a national urbanisation policy.
- (b) There is a need to frame a comprehensive human settlement policy at the national and State levels on a priority basis.

(c) There is a need for a comprehensive policy for the location, design and development of new towns, in consonance with the national development objectives.

(d) There is a need to review and update the planning legislations with a view to facilitating expeditious implementation of urban development and redevelopment plans.

ANNEXURE—I

Sl. No.	Name of the region	Area in sq. Kms.	Population in 1971	Urban Population in 1971	Population in 1981	Urban population in 1981
1.	Pondicherry	290.00	3,40,240	1,54,945	4,44,417	2,51,420
2.	Karaikal	161.00	1,00,042	26,080	1,20,010	43,408
3.	Mahe	9.00	23,134	8,972	28,413	9,588
4.	Yanam	20.00	8,291	8,291	11,631	11,613
Total (V. T. of Pondicherry)		480.00	4,71,707	1,98,288	6,04,471	3,16,047

ANNEXURE—A

Percentage of rural and urban population to total population of the concerned region viz., District/Union Territory.

Sl. No.	Name of the District/Union Territory	1961		1971		1981	
		Rural	Urban	Rural	Urban	Rural	Urban
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.	Pondicherry	79.98	20.02	54.46	45.54	42.43	56.57
2.	Karaikal	73.51	26.49	73.93	26.07	63.83	36.17
3.	Mahe	99.19	40.81	61.22	38.78	66.25	33.75
4.	Yanam	—	100.00	—	100.00	—	100.00
I.	Pondicherry Union Territory	75.89	24.11	57.96	42.04	47.71	52.28

ANNEXURE—6

Distribution of urban population region-wise (with percentage of district urban population to total urban population of the Union Territory)

S. No.	Year	Total urban Population of the union territory	Pondicherry	Karaikal	Mahe	Yanam
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	1961	88,997	51,762(58.16)	22,252(25.00)	7,951(8.94)	7,032(7.90)
2.	1971	198,288	154,945(78.14)	26,080(13.15)	8,972(4.53)	8,291(4.18)
3.	1981	316,047	251,420(79.55)	43,408(13.74)	9,588(3.03)	11,631(3.68)

1. *Present status of water front beaches for the fishing activity*

Union Territory of Pondicherry, is a Maritime State, consists of four regions viz. Pondicherry, Karaikal, Mahe and Yanam with a coastline of 45 Kms. There are 27 Marine fishing villages—Pondicherry (15), Karaikal (10), Mahe and Yanam one fishing village each; with a total fisherfolk population of about 28,000 operating country crafts like catamaran, masula boats, odams, dug out canoes, navas etc., and 336 mechanised boats with various types of fishing gears.

The entire coastline of Union Territory of Pondicherry, Pondicherry 24 Km. Karaikal 20 Kms., Mahe 1 Km. is being fully utilised for fishery activity like fish landings, auctioning of fishes, keeping the crafts and tackles on the beach mending and repairing of gears etc.

With an object to provide essential infrastructural facilities to the fisherfolks like community hall, Fish Auction Hall, Fish Curing Yard, Fish Drying Platform, Ice Plant, Bath Room and Latrines in the important fishing villages, the State Fisheries Department is implementing a scheme 'Development of Infrastructural facilities in coastal fishing Village'.

4. *The land man ratio in urban and rural areas*

The details of land man ratio in the urban and rural areas are as under :—

UNION TERRITORY OF PONDICHERRY
LAND MAN RATIO

	Union Territory of Pondicherry.	Urban	Rural
Population	6,04,471	3,16,047	2,88,424
Area	492 Sq. Kms.	100 sq. Kms.	392 Sq. Kms.
Land man ratio	1:1229	1:3160	1:735

5. *Detailed information about the deterioration of physical environment and lack of infrastructure on the peripheral areas*

As in other urban settlements of Tamil Nadu and South India, certain amount of deterioration of physical environment and lack of infrastructure facilities on the peripheral areas have taken place on the urban fringes of the urban settlements of the Union Territory of Pondicherry. The Master Plan for notified planning area of Pondicherry include specific area indicated as urban areas to contain the projected population by 1994, and the remaining area within the planning area is envisaged as urbanisable area with proper controls. But the urbanisable areas were mainly agricultural lands. The urban Land Ceiling Act which came into effect in 1976 were not applicable to the agricultural lands. as a result, mutilation and sub-division has taken place in agricultural lands which has resulted in the deterioration of fringe areas. The Government has since taken measures to tighten the registration procedures. At the registration itself discreet enquiries are made to see intentions are genuine and the planning

authority have taken specific decision not to extend electric supply and water facilities such areas to curb the unauthorised constructions.

6. *What is the housing shortage and methodology of its estimation?*

The details regarding the housing shortage and the methodology of its estimation is as below :—

HOUSING STOCK ESTIMATION FOR UNION TERRITORY OF PONDICHERRY

Population as per 1981 census.	6,04,741 persons
Present housing stock census houses.	1,07,185 houses
Assuming 30% houses in the urban areas are slums and require replacement and 20% houses in the rural area are in poor condition and not fit for the habitation.	
Habitable houses at present.	79,927 houses
Total houses required at present in the Union Territory of Pondicherry @ 5 persons per house.	1,20,894 houses
Deficiency at present.	(—)79,927 houses
	40,967 houses
projected population by 1991 @ 2.8% growth.	7,73,723
Total houses required by 1991 @ 5 persons per house.	1,54,744 houses
	(—)79,927 houses
	74,817 houses

7. *The impact of comprehensive project of Pondicherry Port on Urbanisation*

The activities of the present port is very limited. Once the new port comes into being, it is bound to create appreciable trends in urbanisation of the Union Territory of Pondicherry and trigger multiplier effects. The New Project is being located in the lagoon of the Ariankuppam river. The loading and discharging operations will be carried out in the south of the Upplam road. On the south side of the proposed port lies the area of Thengaithittu island. The proposed Fisheries Harbour is also proposed to be located in the southern part of the Thengaithittu island. Due to the location of Commercial and Fisheries Harbour between Upplam and Thengaithittu island the activity in commercial Clearing and Forwarding and Fishi operation will increase manifold.

8. *When the Master Plan was introduced in the Union Territory, its time span and the highlights*

The Master Plan for Pondicherry Planning area for an area of 12,500 acres engulfing 2 communes has been made statutory in March, 1982. A brief resume of the Master Plan for Pondicherry is herewith enclosed.

9. *Whether conservation areas have been identified*

Until 1954, the main Pondicherry stelement was within the Boulevard town, except the cotton mills located outside. Within the Boulevard itself, the central grand canal bisects the town into 2 areas with specific characteristics viz. the erstwhile white town and Black town. The white town have an open plan.

In order to conserve the typical French character of the area, a redevelopment plan has been prepared for the white town by the Project Divisions, Town & Country Planning Organisation, New Delhi. Based on the various planning parameters prescribed in the plan, the physical development and new constructions in the area are regulated.

10. *The concept of specialised facilities available in the peripheral urban settlements may be elaborated*

In the Pondicherry region, the only urban settlement is Pondicherry city. Nearby urban settlements are in the South Arcot District of Tamil Nadu. All the specialised needs of the Pondicherry region are met by the main urban settlement—Pondicherry city itself. The same is the case with other outlying settlements of Karaikal, Mahe and Yanam. As stated earlier, the administrative hierarchy of the Pondicherry region is built up with the main urban settlement of Pondicherry as the mother city depended by next order settlements which are Commune Panchayat Headquarters. A city Regional plan for Pondicherry region is proposed to be prepared in a year and a working committee has already been constituted by the Ministry of Urban Development, Government of India with the Chief Secretary as Chairman and the Secretary dealing with the Town Planning as Member Convenor and representatives from the Town and Country Planning Organisation, Ministry of Urban Development, New Delhi and Town & Country Planning Department, Govt. of Tamil Nadu as Members.

11. *Step taken/thought of for meeting the future needs of the Auroville township*

Auroville is the first planetary city in the world which has been consciously designed for a spiritual goal. In the words of the Mother "Auroville stands for the attainment of perfection in thought and action in the new man living in the new society. Auroville wants to be a universal town where men and women of all countries are able to live in peace and progressive harmony, about all creeds, all politics and all nationalities." In short, it will be an ideal mini world where 'human wants shall be met and where the spiritual needs will be explored and appeased'. With the meagre information and data that is available on Auroville project it is extremely difficult to guess the complexity and magnitude of this problem, and the impact of it on the physical, socio-economic, cultural and administrative spheres of activity of the Pondicherry city.

Auroville is situated near about 10 Kms. from Pondicherry. The entire township will come up over a vast tract of virgin land, at present almost barren and reversionary about 15 sq. miles in extent in Tamil Nadu having on one side the Bay of Bengal and the other side connecting a series of lakes. Within this town falls the entire village of Alankuppam, a portion of Kalapet and a small portion of Karuvadikuppam which form a part of the Pondicherry State. It is estimated that this project will take about 15 years to be completed. Basically the design of Auroville has been conceived in a series of visions of the Mother and its basic pattern coincides with the circle, Lotus

like symbol of the Mother. The population of this town has been deliberately fixed as 50,000, studious, but this is an experiment which has never been tried before and it has to be seen how far the project authorities would succeed in overcoming the multitudinous odds against this project. The basic structure of the town design has been subject to variation from time to time and yet no one is clear as to what will be its ultimate form of shape it will take. As physical planners are mostly concerned with the locational aspects of this town and spacial inter relationship with Pondicherry and the neighbouring region, the areas of influence of these two important centres which act as forceful magnets, would therefore be conflicting and completing and would subject to pressures of pull and push. Auroville by virtue of its special objectives will be a closed town or an economically and socially self-contained entity. But in today's economy the question of an economically viable and self-contained entity independently functioning has already proved to be a Myth. Auroville, initially has, therefore, to depend on Pondicherry and the South Arcot region in Tamil Nadu State for its resources both in the form of materials and man power. The basic infrastructure to build Auroville has either to be located within the township or in the neighbouring region of Pondicherry urban area. This would in turn upset the economic equilibrium of Pondicherry and its neighbouring region. The entire labour force, as stated earlier, could have to be drawn from Pondicherry and the neighbouring region and Pondicherry will act as a service centre to Auroville till such time the township stands on its own footing. It therefore becomes imperative that while planning for Pondicherry, the location of Auroville and its influence has to be taken cognisance of and necessary provision has to be made. We are still in the dark regarding the exact, details, of ultimate population, land use pattern, economic base and other basic essential data relating to the town and until these are spelled out in concrete and tangible physical programmes and targets, whatever provision we would make in the Master Plan for Pondicherry would not mean much. While Master Plan for Pondicherry taken a significant note of Auroville, its multifarious uncertainties as stated above, impart no definite programme of action to be taken immediately in the master plan for Pondicherry. Anyhow as planners we are equally seized of this issue and are closely watching the progress of this project with great interest and study it thoroughly as year go by till such time the concept of Auroville matures itself into a full fledged plan of action. The city regional Plan under preparation for the entire Pondicherry settlement within a year in consultation with the Town and Country Planning Department, Tamil Nadu with Town and Country Planning Organisation, New Delhi, will take these aspects into consideration.

P. KRISHNAMURTHY
Deputy Secretary to Government